The International Journal of Accounting

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Volume 33 • Number 1 • 1998

Special Issue

International Accounting Research 1965–1996

Indexes and Annotated Bibliography of the International Journal of Accounting

Published by
JAI Press Inc.
Greenwich, Connecticut London, England

For:
Center for International Education and Research in Accounting,
University of Illinois at Urbana–Champaign

Name of publication: **THE INTERNATIONAL JOURNAL OF ACCOUNTING** (ISSN:0020-7063)
Issue: Volume 33/Number 1/1998
Frequency: Published Quarterly
Office of publication: 55 Old Post Road No. 2, P.O. Box 1678
Greenwich, Connecticut 06836-1678.

Subscription rates (postage included):

Institutions: United States $225.00
Foreign Surface Mail $250.00
Foreign Air Mail $275.00

Individuals: United States $95.00
Foreign Surface Mail $120.00
Foreign Air Mail $145.00
(Please remit by personal check or credit card)

Please contact publisher for missing issues.

All subscriptions must be prepaid and are for the 1999 calendar year only.

POSTMASTER send address changes to:

Subscription Dept.: 55 Old Post Road No. 2, P.O. Box 1678, Greenwich, CT 06836-1678.
(Europe and United Kingdom) 38 Tavistock Street, Covent Garden
London WC2E 7PB, England

Editorial Office: Center for International Education & Research in Accounting
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Champaign, IL 61820
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Editor: A.D. Bailey, Jr.

Back Issues: Information about availability and prices of back issues starting with Volume 31, Number 1 may be obtained from the publisher's order department (address above). Prior issues, please contact the editorial office.

Claims: Claims for undelivered copies must be made no later than three months after publication. The publisher will supply missing copies when losses have been sustained in transit and when the reserve stock will permit.

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// THE INTERNATIONAL JOURNAL OF ACCOUNTING

VOLUME 33 NUMBER 1 1998

Special Issue

International Accounting Research from 1965 to 1996: Indexes and Annotated Bibliography of The International Journal of Accounting

GUEST EDITOR

Belverd E. Needles, Jr.
DePaul University

Dedication: To Vernon K. Zimmerman

The International
Journal of
Accounting

Preface

The purpose of this compendium of indexes and annotated bibliography for the full history of the *International Journal of Accounting* (formerly *The International Journal of Accounting, Education, and Research*) is to provide a resource for scholars in this field of research. Having been published for thirty-two years, the *International Journal of Accounting* has the longest continuous history of published research in international accounting. Although other journals have more recently covered this field, the *International Journal of Accounting* in its early years was the only outlet for such research in the United States. V.K. Zimmerman described the mission of the journal in his "Note from the Editor" in the first issue (Vol. 1, No. 1, Fall 1965), as being "To explore and identify the international dimension of accounting as it exists today." Following this philosophy during this entire period until his death in November 1996, Zimmerman's editorship reflects the full range of developments and changes in international accounting research.

The annotated bibliography contains entries for all the articles published in the International Journal of Accounting and related monographs through the end of 1996 (Volume 32). In total, 768 articles have been published in this journal and related monographs, including 263 devoted to the European region, 183 to the Asian Pacific region and 126 to countries classified by the World Bank (1990) as economically developing. In the early years of the journal, one of the two issues per year were devoted to the proceedings of the Seminar in International Accounting conducted annually at the University of Illinois at Urbana-Champaign. More recently, the proceedings of the seminar have been published as separate monographs. Since the research represented in these proceedings represents, in effect, an extension of the journal, the articles in these monographs are covered by this study. The separately published monographs included in this bibliography are:

- *The Multinational Corporation: Accounting and Social Implications*, 1977.
- *The Impact of Inflation on Accounting: A Global View*, 1979
- *Managerial Accounting: An Analysis of Current International Applications*, 1984
- *The Recent Accounting and Economic Developments in the Middle East*, 1985
- *The Recent Accounting and Economic Developments in Western Europe*, 1985
- *The Recent Accounting and Economic Developments in the Far East*, 1988
- *Comparative International Accounting Educational Standards*, 1990
- *Ethical Considerations in Contemporary International Accounting Practice*, 1992
- *Changing International Financial Markets and Impact on Accounting*, 1992

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The International Journal of Accounting, Vol. 32, No. 4, pp. 1-2 ISSN: 0020-7063.

- *The New Europe: Recent Political and Economic Implications for Accountants and Accounting*, 1994

Volumes 1–23 consisting of two issues each were published by the Center for International Accounting Education and Research in Accounting at the University of Illinois at Urbana-Champaign. Volumes 24-30 consisting of four issues per year were published by the Springer-Verlag. Volume 31 and 32 also consisting of four issues per year were published by the current publisher JAI Press, Inc.

Each sequentially numbered entry in the annotated bibliography, presented alphabetically by author, contains the full name of the author(s), title of the article, affiliation of the author(s), research methodology, subject of the research, country(ies) or region, and a short description of the research. Criteria for making these designations are set forth in the article "International Accounting Research: An Analysis of Thirty-Two Years from the International Journal of Accounting," by Belverd E. Needles, Jr. in Volume 32, Number 2 of the *International Journal of Accounting*.

Indexes of the entries in the bibliography are provided for easy reference. In addition to an overall index for all entries, indexes are also provided for the European region, Asian/Pacific region, and developing countries. In each of these areas, an index is provided by subject and by country or region and methodology.

Many thanks to my graduate assistants at DePaul University—Michael Whalen, Marty Frierson, and Haoying Ewing—for their assistance with this project. Working with them has been a pleasure.

I wish to acknowledge the encouragement and support my work throughout my career from Professor Zimmerman. This project of almost ten years was inspired by his leadership in the field of international accounting and could not have been completed without his support. Further, I wish to thank Dr. Andrew Bailey for his willingness to see it through to fruition.

Belverd E. Needles, Jr.

The International
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INDEX 1: ARTICLES BY COUNTRY/REGION & METHODOLOGY—COMPREHENSIVE

The International Journal of Accounting, Vol. 33, No. 1, pp. 3-17 ISSN: 0020-7063.

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The International Journal of Accounting, Vol. 33, No. 1, pp. 19-21 ISSN: 0020-7063.

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INDEX 4: ARTICLES BY SUBJECT—EUROPEAN REGION

The International Journal of Accounting, Vol. 33, No. 1, pp. 29-30 ISSN: 0020-7063.

INDEX 5: ARTICLES BY COUNTRY/REGION & METHODOLOGY—ASIAN/PACIFIC REGION

The International Journal of Accounting, Vol. 33, No. 1, pp. 31-35 ISSN: 0020-7063.

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The International Journal of Accounting, Vol. 33, No. 1, pp. 37-38 ISSN: 0020-7063.

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INDEX 7: ARTICLES BY COUNTRY/REGION & METHODOLOGY—DEVELOPING COUNTRIES

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INDEX 8: ARTICLES BY SUBJECT—DEVELOPING COUNTRIES

The International Journal of Accounting, Vol. 33, No. 1, pp. 45-46
ISSN: 0020-7063.

ANNOTATED BIBLIOGRAPHY

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   Methodology: deductive descriptive.
   Discussion of the relationship of accounting and the tax system in Syria. Finds that the accounting function can help to improve the tax system.
2. Abdeen, Adnan M., Syria (University of Petroleum and Minerals, Saudi Arabia). The Role of Accounting in Project Evaluation and Control: The Syrian Experience [economics and development]. *The International Journal of Accounting.* 1980 Mar; 15(2): 143–158.
   Methodology: deductive descriptive.
   Description of the organizational structure and methodology used by the Syrians for capital projects and economic development.
3. Abdeen, Adnan M.; Yavas, Ugur, Saudi Arabia (California State University at Los Angeles//University of Petroleum and Minerals, Saudi Arabia). Current Status of Accounting Education in Saudi Arabia [accounting education]. *The International Journal of Accounting.* 1985 Mar; 20(2): 155–173.
   Methodology: deductive descriptive.
   Description of the Saudi Arabian system for accounting education. Describes the deficiencies and provides recommendations for the system's improvement.
4. Abdel-Magid, Moustafa F.; Cheung, Joseph K., global (Simon Fraser University, Canada//Simon Fraser University, Canada). Ratio Scales, Foreign Exchange Rates, and the Problem of Foreign Currency Translation: An Analytical-Empirical Perspective [financial accounting and reporting]. *The International Journal of Accounting.* 1986 Sep; 22(1): 33–49.
   Methodology: empirical statistical.
   Study of fourteen foreign subsidiaries regarding the effects of different types of translation methods. Finds that the least squares method minimized the estimation error.
5. Abdel-Magid, Moustafa F., Islamic countries (Simon Fraser University, Canada). The Theory of Islamic Banking: Accounting Implications [economics and development]. *The International Journal of Accounting.* 1981 Sep; 17(1): 79–102.
   Methodology: deductive descriptive.
   Discussion of the religious, social, and political factors affecting Islamic banking. Includes an overview of Islamic banking theory and related accounting concerns.

The International Journal of Accounting, Vol. 33, No. 1, pp. 47-178 ISSN: 0020-7063.

6. Abdelsalam, Mahmoud; Satin, Diane, Saudi Arabia (King Saud University, Saudi Arabia//University of California, Berkeley). The Effect of Published Corporate Financial Reports on Stock Trading Volume in Thin Markets: A Study of Saudi Arabia [social effects]. *The International Journal of Accounting.* 1991; 26(4): 302–313.
Methodology: capital markets.
Examination of relationship between corporate financial reports and stock trading volume in Saudi Arabia. Gives four reasons of insignificant effect of financial reports on share trading volume.
7. Abdelsalam, Mahmoud; Satin, Diane, Saudi Arabia/United States (King Saudi University, Saudi Arabia//University of California at Berkeley). The Impact of Published Annual Financial Reports on Share Prices in Saudi Arabia [economics and development]. *The International Journal of Accounting.* 1988 Mar; 23(2): 113–124.
Methodology: capital markets.
Study of the Saudi Arabian stock market's reaction to published announcements.
8. Abel, Rein, Germany (University of Pennsylvania). The Impact of Environment on Accounting Practices: Germany in the Thirties [financial accounting and reporting]. *The International Journal of Accounting.* 1971 Sep; 7(1): 29–47.
Methodology: theoretical.
Study of the importance of environmental factors in establishing the characteristics of accounting practices that are prevalent in any country. Contends that these factors must be considered when striving for international uniformity.
9. Abu-Nassar, Mohammad; Rutherford, Brian A., Developing countries/Jordan (University of Jordan//University of Kent, Canterbury, UK). Preparers' Attitudes to Financial Reporting in Less Developed Countries with Moderately Sophisticated Capital Markets: The Case of Jordan [financial accounting & reporting]. *The International Journal of Accounting.* 1995; 30(2): 129–138.
Methodology: empirical descriptive.
Comparative study of financial statement preparers in Jordan with previous studies involving preparers in other developing countries.
10. Agacer, Gilda M.; Doupnik, Timothy S., United States/the Philippines/West Germany (Mississippi State University//University of South Carolina). Perceptions of Auditor Independence: A Cross-cultural Study [auditing]. *The International Journal of Accounting.* 1991; 26(3): 220–237.
Methodology: empirical statistical.
Examination to determine if client size, management advisory services, past due fees, and spouse employment at same audit firm play roles in weakening auditing independence.
11. Agami, Abdel; Alkafaji, Yass A., Egypt/Jordan/Saudi Arabia/Libya/Iraq/Kuwait (Old Dominion University//Northern Illinois University). Accounting Education in Selected Middle Eastern Countries [accounting education]. *The International Journal of Accounting.* 1987 Sep; 23(1): 145–169.
Methodology: empirical descriptive.

Description of the social, political, and professional influences on accounting education in the Middle East.

12. Agrawal, Surendra P., United States/United Kingdom (Memphis State University). Current Cost Accounting in the United Kingdom and the United States: A Comparative Analysis [managerial accounting]. *The International Journal of Accounting*. 1983 Mar; 18(2): 95–108.
Methodology: theoretical.
Comparison of the current cost accounting methods used in the U.S. and the U.K.

13. Agrawal, Surendra P.; Hallbauer, Rosalie C., United States/United Kingdom/Australia (Wright State University//Florida International University). Advantages of Replacement Cost Accounting: A Critical Evaluation [financial accounting and reporting]. *The International Journal of Accounting*. 1978 Mar; 13(2): 1–14.
Methodology: theoretical.
Presentation of many examples of simulated situations where replacement cost accounting could be used. Criticizes the benefits of such treatment and calls for alteration.

14. Agrawal, Surendra P.; Jensen, Paul H.; Meador, Anna Lee; Sellers, Keith, United States/United Kingdom/Canada/Australia (Memphis State University//University of Central Arkansas//Marshall University//University of Arkansas). An International Comparison of Conceptual Frameworks of Accounting [accounting theory]. *The International Journal of Accounting*. 1989; 24(3): 237–249.
Methodology: deductive descriptive.
Discussion of the international and domestic developments of accounting theory in the U.S., the U.K., Canada, and Australia.

15. Agrawal, Surendra P.; Rosenzweig, Kenneth, United States (Memphis State University//University of Dayton). Some Simpler Methods of Accounting for the Effects of Changing Prices [accounting theory]. *The International Journal of Accounting*. 1983 Sep; 19(1): 157–171.
Methodology: theoretical.
Presentation and analysis of three accounting methods—the Price Waterhouse, Grady, and Agrawal methods—for changing prices.

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Methodology: deductive descriptive.
Description of the economic, environmental, and legal factors affecting accounting practice in Guatemala.

17. Ahadiat, Nasrollah, United States (California State Polytechnic University, Pomona). Some Thoughts on the Development of Geographic Segment Reporting in the United States [financial accounting & reporting]. *The International Journal of Accounting*. 1995; 30(2): 139–148.

Methodology: empirical descriptive.

Presentation of research evidence supporting the need to revise the Financial Accounting Standards Board (FASB) standards regarding geographic reporting standards.

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    Methodology: historical.

    This article gives a historical overview of the development of financial statement reporting by several organizations, including the United Nations and European Economic Community, as well as other geographic segment organizations.

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    Methodology: empirical statistical.

    Study involving nonfinancial companies in Bangladesh which evaluates statutory disclosure compliance of information in the corporate annual reports and disclosure compliance based upon selected company characteristics. Statistical findings show that large audit firms and subsidiaries of multinational companies have a positive influence on the level of disclosure compliance.

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    Methodology: empirical descriptive.

    Study of different industries in Canada. fInds that industries typically disclose similar information.

21. Aitken, Hugh T., none (Exports Credit Insurance Corporation). Accounting Related to Exports Credits Insurance and Finance [economics and development]. *The International Journal of Accounting.* 1969 Sep; 5(1): 71–78.

    Methodology: deductive descriptive.

    Review of the current condition of credit in the international market, the risks involved, and solutions to problems surrounding the topic.

22. Aitken, Michael J., United Kingdom/United States (University of New South Wales, Australia). A General Theory of Financial Reporting: Is It Possible? [financial accounting and reporting]. *The International Journal of Accounting.* 1990; 25(4): 221–233.

    Methodology: theoretical.

Analysis of accounting theory. Author contends that a general theory may be developed; however, it is not possible to develop a theory that takes into account all possible needs.

23. Aitken, Michael J.; Islam, M. A., global (University of New South Wales, Australia//University of New South Wales, Australia). Dispelling Arguments Against International Accounting Standards [financial accounting and reporting]. *The International Journal of Accounting.* 1984 Mar; 19(2): 35–46.
Methodology: deductive descriptive.
Presentation of arguments, pro and con, regarding international accounting standards.

24. Aitken, Michael J.; Wise, Trevor D., global (University of New South Wales, Australia//La Trobe University, Australia). The Real Objective of the International Accounting Standards Committee [accounting theory]. *The International Journal of Accounting.* 1984 Sep; 20(1): 171-177.
Methodology: deductive descriptive.
Discussion of the effectiveness of the IASC's standards. Contends that because of the accountant-dominated standard-setting process, the IASC has been ineffective to date.

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Methodology: deductive descriptive .
Evaluation of problems in Thailand's accounting profession and accounting education program, based on a survey of 285 Thai accounting educators and professionals. The results of this study revealed numerous deficiencies.

26. Al Hashim, Dhia D., none (Florida International University). Accounting Control Through Purposive Uniformity: An International Perspective [accounting theory]. *The International Journal of Accounting.* 1973 Mar; 8(2): 21-32.
Methodology: theoretical.
Study of purposive uniformity—a system of accounting control in which the interpretation of economic events, the prescription of accounting methods, and development of reports are responsive to definite user needs.

27. Al Hashim, Dhia D., European Economic Community/Arab Countries/United States/United Kingdom/Netherlands/Germany/Canada/Developed Countries (California State University at Northridge). Accounting Framework for the Gulf Cooperation Council [financial accounting and reporting]. The Recent Accounting and Economic Developments in the Middle East. Champaign, IL: Center for International Education and Research in Accounting; 1985 May: 1-12.
Methodology: theoretical.
Presentation of an accounting framework for the Gulf Cooperation Council members. Framework addresses the goals of countries in the Middle East.

28. Al Hashim, Dhia D., Brazil/France/Germany/Switzerland/United States/United Kingdom (California State University at Northridge). Regulation of Financial Accounting: An International Perspective [financial accounting and reporting]. *The International Journal of Accounting.* 1980 Sep; 16(1): 47-62.
Methodology: deductive descriptive.
Discussion of the relationship between the status of a country's accounting profession and the regulating body. Concludes that generally, the lower the status of the profession, the more likely the governmental body will be governmental or legislative.

29. Al Hashim, Dhia D., Egypt (California State University at Northridge). Social Accounting in Egypt [social effects of accounting]. *The International Journal of Accounting.* 1977 Mar; 12(2): 127-141.
Methodology: deductive descriptive.
Discussion of the controlled accounting system in Egypt. Concludes that the current system in Egypt does not properly evaluate management's use of resources.

30. Alnajjar, Fouad K., Soviet Union/United Kingdom/United States/France/Belgium/Poland/Egypt/Iraq (Wayne State University). Standardization in Accounting Practices: A Comparative International Study [financial accounting and reporting]. *The International Journal of Accounting.* 1986 Mar; 21(2): 161-176.
Methodology: empirical statistical.
Study of accounting standard development. Finds that accounting standards have generally been falling under legislative regulation through time.

31. Alnajjar, Fouad K.; Buttross, Thomas E., Belguim/France/Germany/United Kingdom/Russia/Poland/Egypt (Wayne State University, Detroit, Michigan//Detroit Mercy University, Michigan). The Development and Acceptance of International Accounting Standards: The Evolution of IASC after Two Decades [miscellaneous]. The New Europe: Recent Political and Economic Implications for Accountants and Accounting. Champaign, IL: Center for International Education and Research in Accounting; 1994: 211-232.
Methodology: deductive descriptive.
Examination of factors which lead to different national accounting systems and introduction of a model for implementing harmonized international accounting standards.

32. Alnajjar, Fouad K.; Volz, William H., Germany (Wayne State University, Detroit, Michigan//Wayne State University, Detroit, Michigan). The Status of Accounting and its Environment in West Germany: An Overview [financial accounting & reporting]. *The International Journal of Accounting.* 1991; 26(2): 104-117.
Methodology: deductive descriptive.
Discusses environmental impact, particularly tax and corporation laws, on West German accounting with its distinct feature of uniformity and compliance to regulations.

33. Alnajjar, Fouad K.; Prodhan, Bimal K., United Kingdom/United States/Europe (Wayne State University//University of Strathclyde, Scotland). Accounting

Research 1976 to 1985: A Transatlantic Perspective [professional development]. *The International Journal of Accounting*. 1987 Sep; 23(1): 167-188.
Methodology: empirical statistical.
Study of various accounting journals regarding research methodology. Finds growth developing toward empirical and institutional influences.

34. Al-Saffar, Hadi R., Middle East/developing countries (Organization of Petroleum Exporting Countries). The Role of Accounting Information in National Development Planning in the Middle East [economics and development]. The Recent Accounting and Economic Developments in the Middle East. Champaign, IL: Center for International Education and Research in Accounting; 1985 May: 25-32.
Methodology: deductive descriptive.
Presentation and discussion of national-investment-price planning and control in the Middle East.

35. Amber, Matwalli B., Egypt (Cairo University, Egypt). Impact of Public Ownership on the U.A.R. Accounting Profession [public accounting]. *The International Journal of Accounting*. 1969 Mar: 4(2): 49-61.
Methodology: deductive descriptive.
Discussion of the changes in the economic system of Egypt that have resulted in basic changes in the accounting profession, particularly after July 1961.

36. Ameiss, Albert P., United States/United Kingdom (University of Missouri at St. Louis). Can British Experience in Profit Forecasting Assist U.S. Firms Interested in Establishing Such Financial Disclosure? [public accounting]. *The International Journal of Accounting*. 1977 Sep; 13(1): 77-91.
Methodology: deductive descriptive.
Comparison of the requirements of the Security and Exchange Commission and the U.K. for financial forecasting. Holds that if such disclosures could be properly implemented the average investor would benefit.

37. Ameiss, Albert P., Sweden/United States (University of Missouri at St. Louis). Could Swedish Auditing Procedures Result in Greater Corporate Control for U.S. Stockholders? [auditing]. *The International Journal of Accounting*. 1970 Mar; 5(2): 103-116.
Methodology: empirical descriptive.
Proposal of solutions to U.S. reporting problems through application of Swedish auditing procedures.

38. Ameiss, Albert P., developing countries/Sweden (University of Missouri at St. Louis). Developing Nations and Tax-Ordained Accounting Principles—The Swedish Model [taxation]. *The International Journal of Accounting*. 1971 Mar: 6(2): 89-102.
Methodology: theoretical.
Study of how accounting can become an integral part of the central planning process in newly emerging nations, as it has been in Sweden. Also explores how such planning can defeat the purposes of sound principles of accounting, even though national objectives may be accomplished.

39. Ameiss, Albert P., United States (University of Missouri at St. Louis). International Accounting at the Senior Student Level [accounting education]. *The International Journal of Accounting.* 1974 Sep; 10(1): 107-121.
    Methodology: deductive descriptive.
    Account of experiences at the University of Missouri at St. Louis in introducing and reviewing an undergraduate-level course in international accounting . Includes a course syllabus and shows U.S. pronouncements relating to the weekly subject matter.
40. Ameiss, Albert P., United States (University of Missouri at St. Louis). Two Decades of Change in Foreign Subsidiary Accounting and United States Consolidation Practices [financial accounting and reporting]. *The International Journal of Accounting.* 1972 Mar; 7(2): 1-22.
    Methodology: empirical descriptive.
    Review of 20 years of change, using the results of surveys about the consolidation of foreign subsidiary accounting operations from 1950 to 1970.
41. Amernic, Joel H.; Aranya, Nissim; Kanungo, Rabindra, Canada (University of Toronto//Tel Aviv University//McGill University, Canada). Professional and Work Values of Accountants: A Cross-Cultural Study [professional development]. *The International Journal of Accounting.* 1983 Mar; 18(2): 177-192.
    Methodology: empirical statistical.
    Survey of Canadian accountants with French and Anglo backgrounds regarding their work ethics and acceptance of professional standards.
42. Amernic, Joel H.; Aranya, Nissim, Canada/United States (University of Toronto// Tel Aviv University). Public Accountants' Independence: Some Evidence in a Canadian Context [public accounting]. *The International Journal of Accounting.* 1981 Mar; 16(2): 11-33.
    Methodology: empirical descriptive.
    Survey of Canadian chartered accountants regarding independence. Concludes that practitioner's independence depends on level in the organization and size of the organization—the higher the level in the organization and the larger the size, the more independent he or she will be.
43. Amernic, Joel H.; Galvin, B. J. B., United States/Canada/United Kingdom (University of Toronto//University of Toronto). Implementing the New Foreign Currency Rules in Canada and the United States: A Challenge to Professional Judgment [financial accounting and reporting]. *The International Journal of Accounting.* 1984 Mar; 19(2): 165-180.
    Methodology: empirical statistical.
    Analysis of the translation methods used. Results indicate disagreement between auditors and management regarding which translation methodology is appropriate.
44. Andrew, Brian; Austin, Lloyd; Chew, Andrew, Singapore/United States (The University of Western Sydney, Australia//Auckland University, New Zealand//The University of Technology, Australia). A Study of the Relationship Between Three Business Flows: Some Evidence From Singapore [financial accounting

and reporting]. *The International Journal of Accounting.* 1988 Mar; 23(2): 57-70.

Methodology: empirical statistical.

Study of companies in Singapore regarding their working capital from operations, and cash flows from operations. Examines the usefulness of this information and the links this information may have to solvency.

45. Andrews, Wesley T.; Smith, Charles H., United States (Arizona State University// University of Illinois at Urbana-Champaign). A Role for Financial Accounting in National Economic Planning in the United States [economics and development]. *The International Journal of Accounting.* 1976 Sep; 12(1): 133-145.

Methodology: theoretical.

A study of the basic objectives of a bill introduced in the U.S. Senate by senators Hubert Humphrey and Jacob Javits outlining the potential role of financial accounting such as in a planning system.

46. Anyane-Ntow, Kwabena, Japan/United States/Canada/West Germany/Australia/ United Kingdom (North Carolina Central University). Just-In-Time Manufacturing Systems and Inventory Reported in Financial Statements: A Cross-National Comparison of Manufacturing Firms [managerial accounting]. *The International Journal of Accounting.* 1991; 26(4): 277-285.

Methodology: empirical descriptive.

Comparison of inventory levels and profitability between Japanese firms and those in other industrial countries, indicating long period of implementation of JIT systems and lower profitability accompanied. Suggests that all costs be considered in adoption of JIT.

47. Arbel, Avner; Jaggi, Bikki L., United States (State University of New York at Binghamton//State University of New York at Binghamton). Impact of Replacement Cost Disclosures on Investors' Decisions in the United States [financial accounting and reporting]. *The International Journal of Accounting.* 1978 Sep; 14(1): 71-82.

Methodology: empirical statistical.

Study using statistical testing to determine investor reaction to the disclosure of replacement costs. Suggests that first disclosures do not affect investors, perhaps due to lack of investor understanding.

48. Arnold, Jerry; Holder, William W.; Mann, M. Herschel, United States/Europe (University of Southern California//University of Southern California//Texas Tech University). International Reporting Aspects of Segment Disclosure [financial accounting and reporting]. *The International Journal of Accounting.* 1980 Sep; 16(1): 125-135.

Methodology: empirical descriptive.

Study of the 10-U reports of 200 companies. Finds that many companies lacked disclosure of their foreign activities and concludes that there is a need for disaggregated disclosure, which FASB 14 may not be able to achieve.

49. Arnold, John; Moizer, Peter; Noreen, Eric, United States/United Kingdom (University of Manchester, England//University of Manchester, England//University of Washington). Investment Appraisal Methods of Financial Analysts: A Compar-

ative Study of U.S. and U.K. Practices [economics and development]. *The International Journal of Accounting.* 1984 Mar; 19(2): 1-18.
Methodology: empirical descriptive.
Survey of financial analysis methodology in the U.S. and U.K. Finds numerous differences between the two countries.

50. Baccouche, Mustapha, developing countries (University of Illinois at Urbana-Champaign). The Need for International Accountancy [financial accounting and reporting]. *The International Journal of Accounting.* 1969 Sep; 5(1): 97-99.
Methodology: deductive descriptive.
Study of the accounting needs of developing countries. Finds that the fulfillment of these needs must come from the government of each country.

51. Bai, Zhao Lu, China (People's University of China). Accounting in the People's Republic of China—Contemporary Situations and Issues [accounting theory]. Recent Accounting and Economic Developments in the Far East. Champaign, IL: Center for International Education and Research in Accounting; 1988 May: 27-50.
Methodology: deductive descriptive.
Brief history of the accounting profession in China and a description of current bookkeeping, managerial accounting, and auditing theories.

52. Bailes, Jack C.; Assada, Takayuki, Japan/United States (Oregon State University// Tsukuba University, Tokyo, Japan). Empirical Differences Between Japanese and American Budget and Performance Evaluation Systems [managerial accounting]. *The International Journal of Accounting.* 1991; 26(2): 131-142.
Methodology: empirical descriptive.
Survey of 256 Japanese and 80 American manufacturing companies budget and performance evaluations. Finds more participation by division managers, higher ranking of ROI and more emphasis on short-term performance evaluations in U.S. companies than in Japanese companies.

53. Bailes, Jack C.; McNally, Graeme M., New Zealand (Oregon State University// University of Canterbury, New Zealand). Cost and Management Accounting Practices in New Zealand [managerial accounting]. *The International Journal of Accounting.* 1984 Mar; 19(2): 59-71.
Methodology: empirical descriptive.
Survey of 62% of New Zealand firms regarding their managerial accounting practices. Indicates that their practices are similar to those followed by firms in the U.S.

54. Bailey, Derek T., Soviet Union (University of Birmingham, England). Accounting in Russia: The European Connection [accounting history]. *The International Journal of Accounting.* 1982 Sep; 18(1): 1-36.
Methodology: historical.
Historical discussion of accounting in Russia.

55. Bait-El-Mal, Mohamed M.; Smith, Charles H.; Taylor, Martin E., Libya (University of Libya//Arizona State University//University of Maryland). The

Development of Accounting in Libya [financial accounting and reporting]. *The International Journal of Accounting.* 1973 Mar; 8(2): 83-101.
Methodology: deductive descriptive.
Description of the development of accounting in the Libyan Arab Republic.

56. Bakal, Robin J.; Lemon, W. Morley, Australia/Canada/United Kingdom/United States (University of Illinois at Urbana-Champaign//McMaster University, Canada). Current Value Accounting: One Standard or Many? [financial accounting and reporting]. The Impact of Inflation on Accounting: A Global View. Champaign, IL: Center for International Education and Research in Accounting; 1979 May: 241-259.
Methodology: deductive descriptive.
Discussion of the International Auditing Standards Commitee approach to inflation accounting. Concludes that, in the short run, standards for inflation accounting are not feasible.

57. Baker, C. Richard, United States (Columbia University). The Structural Response of the Large CPA Firm to Its Environment [public accounting]. *The International Journal of Accounting.* 1977 Mar; 12(2): 69-80.
Methodology: deductive descriptive.
Discussion of the methodology used by large CPA firms for coping with changing legislation, technology, and client demands.

58. Baker, H. Kent; Chenhall, Robert H.; Haslem, John A.; Juchau, Roger H., United States/Australia (The American University//Macquarie University, Australia// University of Maryland//Nepean College of Advanced Education, Australia). Disclosure of Material Information: A Cross-National Comparison [financial accounting and reporting]. *The International Journal of Accounting.* 1977 Sep; 13(1): 1-18.
Methodology: empirical descriptive.
Survey comparing U.S. and Australian investor needs. Concludes that the level of disclosure is inadequate for these needs.

59. Baladouni, Vahe, none (University of New Orleans). The Study of Accounting History [accounting history]. *The International Journal of Accounting.* 1977 Mar; 12(2): 53-67.
Methodology: theoretical.
Presentation of cultural, social, and technological frameworks necessary for the study of accounting history.

60. Balke, Thomas E.; Sorenson, James E., none (University of Nebraska//University of Denver). Reliability and Validity of Accounting Data [accounting theory]. *The International Journal of Accounting.* 1975 Mar; 10(2): 37-46.
Methodology: theoretical.
Study that applies a conceptualization of validity and reliability from the behavioral sciences to accounting.

61. Bardsley, R. Geoffrey, none (Xerox Corporation). Managing International Financial Transactions [managerial accounting]. *The International Journal of Accounting.* 1972 Sep; 8(1): 67-76.

Methodology: theoretical.
Study of policies for the financial functions which might be used in a multinational corporation. Develops methods and procedures for the implementation of these policies.

62. Barlev, Benzion, Israel (University of Rochester/Jerusalem School of Business Administration, Hebrew University). The Independent Auditor's Report: Study of a Change [auditing]. *The International Journal of Accounting.* 1976 Mar; 11(2): 73-90.
Methodology: empirical descriptive.
Study of Israel's decision to substitute the American version of the audit report for the British tradition and issues that were considered in making this change. Uses findings obtained from an empirical investigation which centered on a group of accountants who were active in the professional committees of the ICPAI and who participated in the 1970 resolution.

63. Barlev, Benzion, Israel/United States/United Kingdom (Jerusalem School of Business Administration, Hebrew University). The Initial Selection of Independent Public Accountants: An Empirical Investigation [public accounting]. *The International Journal of Accounting.* 1977 Mar; 12(2): 37-51.
Methodology: empirical statistical.
Study of the selection process methodology to choose an independent public accountant. Addresses such factors as firm size, type of service, personality traits, and personal ties are addressed in the study.

64. Barlev, Benzion; Friedman, Abraham, United States (The Hebrew University, Jerusalem//The Hebrew University, Jerusalem). Experience Requirements and the Education of Certified Public Accountants [accounting education]. *The International Journal of Accounting.* 1982 Mar; 17(2): 75-88.
Methodology: theoretical.
Discussion of the theoretical and educational aspects of the experience requirements to become a CPA.

65. Barniv, Ran; Elitzur, Ramy, Israel/United States (Ben Gurion University of the Negev, Israel//University of Toronto). Attitudes of CPAs in Israel Towards GAAP for Closely Held Corporations and Small Business [public accounting]. *The International Journal of Accounting.* 1989; 24(4): 343-364.
Methodology: empirical descriptive.
Survey of the attitudes toward GAAP held by 200 CPAs in Israel. Finds that Israeli CPAs generally disagree with GAAP.

66. Barr, Andrew, United States (University of Illinois at Urbana-Champaign). Accounting Yesterday, Today, and Tomorrow [accounting history]. *The International Journal of Accounting.* 1972 Sep; 8(1): 1-15.
Methodology: historical.
Study of events of the last fifty years as a basis for predicting future developments in accounting.

67. Barr, Andrew, United States (Securities and Exchange Commission). The Influence of Government Agencies on Accounting Principles with Particular Reference to

the Securities and Exchange Commission [governmental]. *The International Journal of Accounting*. 1965 Sep; 1(1): 15-33.
Methodology: deductive descriptive.
Study of positive and negative views of government influence on establishing uniformity in accounting practices.

68. Barrett, M. Edgar, United States/United Kingdom/Japan/Sweden/Netherlands/Germany/France (Southern Methodist University). The Extent of Disclosure in Annual Reports of Large Companies in Seven Countries [financial accounting and reporting]. *The International Journal of Accounting*. 1977 Mar; 12(2): 1-25.
Methodology: empirical descriptive.
Study of the extent of financial disclosure in the annual reports of major, publicly-held foreign corporations with that found in major, publicly-held U.S. firms. Presents a detailed analysis of the extent of annual report disclosure of both domestic and foreign firms as compared to segment reporting and capital expenditure, current and planned.

69. Bavishi, Vinod B., Global (Center for International Financial Analysis and Research). International Accounting Differences and the Globalization of Capital Markets: Issues and Answers [financial accounting & reporting]. Changing International Financial Markets and Their Impact on Accounting: Center for International Education and Research in Accounting. Champaign, IL: Center for International Education and Research in Accounting, Department of Accountancy; 1992: 1-16.
Methodology: capital markets.
Study examining major accounting distinctions between various industrialized nations and comparing these distinctions to GAAP principles, as well as providing suggestions toward harmonizing such differences.

70. Bavishi, Vinod B., United Arab Emirates/Egypt/Cyprus/Zambia/Israel/United States/European Economic Community/Africa/Middle East/South Africa/Zimbabwe/Nigeria/Kenya/Saudi Arabia (University of Connecticut). Who Audits the World? International Accounting Firms' Operations in Developing Countries: The Case of Africa/Middle East [auditing]. The Recent Accounting and Economic Developments in the Middle East. Champaign, IL: Center for International Education and Research in Accounting; 1985 May: 183-195.
Methodology: empirical descriptive.
Study of international auditing firms regarding their structure, and market. Lists findings by firms.

71. Bavishi, Vinod B.; Wyman, Harold E., United States (University of Connecticut// University of Connecticut). Foreign Operations Disclosures by U. S.-Based Multinational Corporations: Are They Adequate? [financial accounting and reporting]. *The International Journal of Accounting*. 1980 Sep; 16(1): 153-168.
Methodology: empirical descriptive.
Study of the inadequacies of current disclosure. Suggests that improvements be made, by grouping the countries according to level of development and political risk. Suggests a 5 percent cutoff instead of 10 percent.

72. Baydoun, Nabil, France, European Economic Community (City Polytechnic of Hong Kong and University of Otago, New Zealand). The French Approach to Financial Accounting and Reporting [financial accounting and reporting]. *The International Journal of Accounting*. 1995; 30(3): 222-244.
Methodology: empirical descriptive.
Examination of the cultural and environmental effects influencing France's financial accounting and reporting process.

73. Beaver, William H., none (Stanford University). Accounting for Inflation in an Efficient Market [financial accounting and reporting]. The Impact of Inflation on Accounting: A Global View. Champaign, IL: Center for International Education and Research in Accounting; 1979 May: 21-42.
Methodology: theoretical.
Comparison of different methods of accounting for price-level changes.

74. Beazley, Jr Garnett F., none (University of South Carolina). An International Implication for Accounting [financial accounting and reporting]. *The International Journal of Accounting*. 1968 Mar; 3(2): 1-10.
Methodology: theoretical.
Discussion of the need for research efforts to focus primarily upon the cross-cultural aspects of the work of accountants in different environments.

75. Bedford, Norton M., none (University of Illinois at Urbana-Champaign). The International Flow of Accounting Thought [accounting theory]. *The International Journal of Accounting*. 1966 Mar; 1(2): 1-7.
Methodology: theoretical.
Study of the processes used in the transmission of basic accounting knowledge and new accounting developments in one part of the world to other parts.

76. Bedford, Norton M.; Gautier, Jacques P., Europe/Switzerland/United States (University of Illinois at Urbana-Champaign//University of Geneva). An International Analytical Comparison of the Structure and Content of Annual Reports in the European Economic Community, Switzerland, and the United States [public accounting]. *The International Journal of Accounting*. 1974 Mar; 9(2): 1-44.
Methodology: deductive descriptive.
Discussion of the differing information provided by contemporary annual reports in the U.S., the European Economic Community, and Switzerland. Describes the differences in the accounting thought, principles, and procedures underlying rational report preparation as they existed in 1973.

77. Beekhuizen, Theo; Frishkoff, Paul, Netherlands/United States (European Institute of Business Administration (INSEAD), France//University of Oregon). A Comparison of the New Dutch Accounting Act with Generally Accepted American Accounting Principles [public accounting]. *The International Journal of Accounting*. 1975 Mar; 10(2): 13-22.
Methodology: deductive descriptive.
Comparison of the accounting principles in the Netherlands with those of the U.S. Concludes that the Netherlands is a commercial center with sophisticated financial practices and the home of several world giant corporations and Dutch accounting principles have been codified.

78. Beghin, Paul; Lefebvre, Chris J. L., Belgium (Administrative en Economische Hogeschool, Belgium//Katholieke Universitiet Leuven, Belgium). The Impact of Fiscal Law on Prescribed Accounting Standards in Belgium [accounting history]. The Recent Accounting and Economic Developments in Western Europe. Champaign, IL: Center for International Education and Research in Accounting; 1985 May: 143-159.
Methodology: historical.
Historical recount of influences on the Belgian accounting practice.

79. Belkaoui, Ahmed; Kahl, Alfred; Peyrard, Josette, United States/Europe (University of Ottawa//University of Ottawa//University of Paris). Information Needs of Financial Analysts: An International Comparison [financial accounting and reporting]. *The International Journal of Accounting*. 1977 Sep; 13(1): 19-27.
Methodology: empirical descriptive.
Survey of the needs of European and North American investors. Finds that North Americans agree on what information is valuable, but that American and European investors differ greatly.

80. Belkaoui, Ahmed; Maksy, Mostafa, global (University of Illinois at Chicago//University of Illinois at Chicago). Welfare of the Common Man and Accounting Disclosure Adequacy: An Empirical Investigation [financial accounting and reporting]. *The International Journal of Accounting*. 1985 Mar; 20(2): 81-94.
Methodology: empirical statistical.
Study of 124 countries to determine whether economic factors and social factors have an effect on welfare and accounting principles. Finds that economic factors have an effect on the welfare of the common man, but that no link exists between welfare and accounting principles.

81. Benau, Maria Antonia Garcia; Humphrey, Christopher; Moizer, Peter; Turley, Stuart, Spain/United Kingdom (Universidad de Valencia, Spain//University of Leeds, United Kingdom//University of Leeds, United Kingdom//University of Manchester, United Kingdom). Auditing Expectations and Performance in Spain and Britain: A Comparative Analysis [auditing]. *The International Journal of Accounting*. 1993; 28(4): 281-307.
Methodology: empirical descriptive.
Comparison and differentiation of the audit expectations and perceptions in Spain and Britain. This article calls for more indepth analysis on the basis of audit expectations, as well as more emphasis on fulfilling audit expectations.

82. Berry, Maureen H., Socialist Countries/Soviet Union/East Germany/Poland (University of Illinois at Urbana-Champaign). The Accounting Function in Socialist Economies [financial accounting and reporting]. *The International Journal of Accounting*. 1982 Sep; 18(1): 185-198.
Methodology: deductive descriptive.
Discussion of the function, status, and economics of accounting in the Socialist countries.

83. Berry, Maureen H., China/United States (University of Illinois at Urbana-Champaign). The Cultural Development of Accounting in the People's Republic of China [accounting history]. Recent Accounting and Economic Developments in

the Far East. Champaign, IL: Center for International Education and Research in Accounting; 1988 May: 1-25.
Methodology: historical.
Study of the relationship between the changes in Chinese society and changes in Chinese accounting. Considers the effect of social, political, and economic pressures on the current accounting function.

84. Berry, Maureen H.; Jaruga, Alicja A., Poland (University of Illinois at Urbana-Champaign//University of Lodz, Poland). Industrial Accounting in Poland's Reorganized Economy [managerial accounting]. *The International Journal of Accounting*. 1985 Mar; 20(2): 45-63.
Methodology: deductive descriptive.
Description of the 1980 reorganization of the accounting function in Poland.

85. Blake, John; Salas, Oriol Amat; Clarke, Julia, Spain (University of Central Lancashire, UK//Universitat Pompeu Fabra, Balmes, Barcelona, Spain//University of Central Lanashire). Management's Response to Finance Lease Capitalization in Spain [financial accounting and reporting]. *The International Journal of Accounting*. 1995; 30(4): 331-342.
Methodology: empirical descriptive.
Analysis of survey results involving a questionnaire survey of Spanish managers regarding accounting for leases by lessees.

86. Blattner, Ken, Japan (St. Cloud State University). Cultural Influences on the Japanese Accounting System [social effects]. Changing International Financial Markets and Their Impact on Accounting. Champaign, IL: Center for International Education and Research in Accounting, Department of Accountancy; 1992: 139-146.
Methodology: deductive descriptive.
Study of internal cultural influences upon Japan's accounting system.

87. Bloom, Robert, United States/Canada (Concordia University, Canada). American and Canadian Accounting Standard Setting: A Comparative Analysis [financial accounting and reporting]. *The International Journal of Accounting*. 1984 Mar; 19(2): 47-57.
Methodology: deductive descriptive.
Comparison of the standard-setting bodies in Canada and the U.S. Concludes that its national culture requires Canada to implement its own standards apart from the FASB.

88. Bloom, Robert; Debessay, Araya, United States/Australia/Canada/United Kingdom (John Carroll University//University of Delaware). An Appraisal of the Conceptual Issues on Backlog Depreciation and a Comparative Analysis of International Accounting Practices [accounting theory]. *The International Journal of Accounting*. 1985 Sep; 21(1): 107-121.
Methodology: deductive descriptive.
Comparison of the accounting practice for backlog depreciation. Contends that the determination of the availability of funds for replacement purposes should be a financing problem.

89. Bloom, Robert; Debessay, Araya, United States/United Kingdom/Canada/Australia (John Carroll University//University of Delaware). A Comparative Analysis of

Recent Pronouncements on Accounting for Changing Prices [accounting theory]. *The International Journal of Accounting*. 1985 Mar; 20(2): 119-138.
Methodology: deductive descriptive.
Discussion and analysis of the accounting methods used to account for price-level changes in the U.S., the United Kingdom, Canada, and Australia.

90. Bloom, Robert; Debessay, Araya, United States/United Kingdom/Canada/New Zealand/Australia (John Carroll University//University of Delaware). The Controversial Development of the Deprival Issue Value Concept [accounting theory]. *The International Journal of Accounting*. 1986 Sep; 22(1): 159-174.
Methodology: theoretical.
Presentation of the deprival valuation method for current cost accounting.

91. Bloom, Robert; Naciri, M. A., United States/Canada/United Kingdom/Germany/Australia/New Zealand/Sweden/Japan/Switzerland (John Carroll University//University of Quebec of Montreal, Canada). Accounting Standard Setting and Culture: A Comparative Analysis of the United States, Canada, England, West Germany, Australia, New Zealand, Sweden, Japan, and Switzerland [financial accounting and reporting]. *The International Journal of Accounting*. 1989; 24(1): 70-97.
Methodology: theoretical.
Comparison of the accounting standard setting functions of the U.S., Canada, the United Kingdom, Germany, Australia, New Zealand, Sweden, Japan, and Switzerland.

92. Boatler, Robert W., Latin America (Texas Christian University, Forth Worth, Texas). When Inflation is Not High Enough: Disappearance of Real Assets Under FAS 52 [financial accounting & reporting]. *The International Journal of Accounting*. 1992; 27(3): 262-266.
Methodology: deductive descriptive.
Discussion of distortive accounting reporting of foreign assets belonging to American companies when such reporting is done in accordance with FAS 52.

93. Bomeli, Edwin C., none (Bowling Green State University). Curricular Recognition of International Accounting—An Appraisal [accounting education]. *The International Journal of Accounting*. 1969 Sep; 5(1): 85-96.
Methodology: theoretical.
Exploration of the growing recognition of international accounting problems in accounting courses. Also considers less obvious manifestations of curricula recognition of international accounting.

94. Bond, Richard R., Africa (Illinois State University). Emerging Nations and Emerging Institutions [economics and development]. *The International Journal of Accounting*. 1970 Sep; 6(1): 83-90.
Methodology: deductive descriptive.
Examination of the struggling nations of Africa. Proposes solutions to problems in the educational institutions of these countries.

95. Borkowski, Susan C., United States (Lasalle University, Philadelphia, Pennsylvania). International Versus Domestic Managerial Performance Evaluation: Some

Evidence [managerial accounting]. *The International Journal of Accounting*. 1993; 28(2): 129-139.
Methodology: empirical statistical.
Study of managerial performance evaluation of domestic and international managers.

96. Borkowski, Susan C., Global (Lasalle University, Philadelphia, Pennsylvania). An Analysis (Meta- and Otherwise) of Multinational Transfer Pricing Research [miscellaneous]. *The International Journal of Accounting*, 1996; 31(1): 39-53.
Methodology: Deductive descriptive.
A description of current transfer pricing practice, methodology used to identify and analyze the transfer pricing studies, and review and meta-analyses of those studies.

97. Bose, A., India (IEL Limited/Institute of Cost and Works Accountants, India). The Indian Accountancy Profession: Its Origins and Current Status [professional development]. Recent Accounting and Economic Developments in the Far East. Champaign, IL: Center for International Education and Research in Accounting; 1988 May: 149-162.
Methodology: deductive descriptive.
Discussion of historical and current implications on the accounting profession in India. Maintains that the profession is moving forward, but needs cooperation from the country's unions.

98. Boussard, Daniel, none (University of Paris). Accounting as an Artifact: A Methodological Design on Dimensions of Accounting [accounting history]. *The International Journal of Accounting*. 1981 Mar; 16(2): 125-147.
Methodology: modeling.
Study of a model of accounting development using social political and operational aspects. Concludes that accounting is a "social code" and application of true/false descriptions will adversely affect the development of accounting.

99. Boussard, Daniel, none (University of Paris). Application of GST to the Financial Accounting Model [accounting theory]. *The International Journal of Accounting*. 1978 Sep; 14(1): 17-37.
Methodology: modeling.
Study using the systems approach to develop a model of the accounting system. Also discusses the implications of such a model to accounting education.

100. Boussard, Daniel; Burlaud, Alain; Malo, Jean-Louis, France (University of Paris/Ecole Superieure de Commerce de Paris//University of Paris/Ecole Superieure de Commerce de Paris//University of Poitiers). The Education of Professional Accountants in France [accounting education]. Comparative International Accounting Educational Standards. Champaign, IL: Center for International Education and Research in Accounting; 1990 Apr: 193-211.
Methodology: deductive descriptive.
Discussion of the environmental, historical, and institutional effects on the French system.

101. Bowles, C. C., none (Dow Chemical Company). International Accounting—A Challenge for Ingenuity [financial accounting and reporting]. *The International Journal of Accounting*. 1968 Sep; 4(1): 83-98.

Methodology: deductive descriptive.
Discussion by the comptroller of the Dow Chemical Company European Division regarding the company's operations in Europe, providing examples and their resolutions.

102. Brankovic, Marlene; Madura, Jeff, United States (MIG Companies//Florida Atlantic University). Effect of FASB Statement No. 52 on Profitability Ratios [financial accounting and reporting]. *The International Journal of Accounting*. 1990; 25(1): 19-28.
Methodology: empirical statistical.
Study of 30 multinational firms regarding the effects of FASB Statement No. 52. Finds that FASB No. 52 has increased the volatility of net income and lowered the volatility with regards to equity.

103. Brennan, W. John, United Kingdom/Australia/Canada/Netherlands (University of Saskatchewan, Canada). The Impact of the Inflation Accounting Debate on Accounting Standard-Setting Bodies [financial accounting and reporting]. The Impact of Inflation on Accounting: A Global View. Champaign, IL: Center for International Education and Research in Accounting; 1979 May: 205-223.
Methodology: theoretical.
Discussion of the standard-setting bodies of various countries. Calls for the independence of international standard-setting bodies.

104. Brewer, Carl, United States (Sam Houston State University). Accounting and History [accounting history]. *The International Journal of Accounting*. 1988 Mar; 23(2): 47-59.
Methodology: theoretical.
Presentation of support for the use of accounting as a historical function.

105. Bricker, Robert; Grant, Julia; Woodlock, Peter, none (Case Western Reserve University, Cleveland, Ohio//Case Western Reserve University, Cleveland, Ohio//Case Western Reserve University, Cleveland, Ohio). Harmonization and International Transfers of Accounting Related Information: A Laboratory Market Investigation [financial accounting & reporting]. *The International Journal of Accounting*. 1992; 27(4): 365-376.
Methodology: empirical statistical.
Study which presents a model to explore ways to harmonize the financial reporting on the transfer of international, intra-market, intra-industry information.

106. Briston, Richard J., United States/United Kingdom (University of Strathclyde, Scotland). The Evolution of Accounting in Developing Countries [economics and development]. *The International Journal of Accounting*. 1978 Sep; 14(1): 105-120.
Methodology: deductive descriptive.
Discussion of the development of national accounting systems. Concludes that the accounting system should be developed for a nation's needs, but that most of the development in this area has been towards international practice.

107. Briston, Richard J.; El-Ashker, Ahmed A., Egypt/United States (University of Hull//Paisley College of Technology). The Egyptian Accounting System: A Case

Study in Western Influence [financial accounting and reporting]. *The International Journal of Accounting*. 1984 Mar; 19(2): 129-155.
Methodology: deductive descriptive.
Discussion of the factors affecting the development of the accounting system in Egypt.

108. Briston, Richard J.; Liang, Foo See; Yunus, Hadori. Indonesia (University of Hull//Nanyang Techological Institute, Singapore//Gadjah Mada University, Indonesia). Accounting Education and Work Force Requirements in Indonesia [accounting education]. Comparative International Accounting Educational Standards. Champaign, IL: Center for International Education and Research in Accounting; 1990 Apr: 147-173.
Methodology: deductive descriptive.
Discussion of the Indonesian system and the effects of duelism with the Dutch system. Concludes that the formation of the coordinating committee may provide for the needs of the Indonesian system.

109. Bromwich, Michael; Wang, Guoqi, China (London School of Economics & Political Science, United Kingdom//The People's University of China, PRC). Management Accounting in China: A Current Evaluation [managerial accounting]. *The International Journal of Accounting*. 1991; 26(1): 51-66.
Methodology: deductive descriptive.
Discusses introduction of western managerial accounting in China and the development of Chinese version of managerial accounting.

110. Brooks, LeRoy; Buckmaster, Dale, United States/New Zealand/United Kingdom (University of South Carolina//University of Delaware). On Monetary Working Capital Maintenance: Theory and Implementation [managerial accounting]. *The International Journal of Accounting*. 1987 Mar; 22(2): 103-114.
Methodology: theoretical.
Presentation of a methodology for capital maintenance. Provides a model for the effects of price change on monetary working capital.

111. Brown, Betty, United States (University of Louisville). The Relationship between Firm Attributes and Early Adoption of the Foreign Currency Translation Standard, SFAS No. 52: An Empirical Investigation [financial accounting and reporting]. *The International Journal of Accounting*. 1985 Sep; 21(1): 1-19.
Methodology: empirical descriptive.
Survey of Fortune 500 companies regarding their adoption of SFAS No. 52. Finds that adoption of SFAS No. 52 increased reported profits and financial leverage factors.

112. Brown, Clifford D., none (State University of New York at Brockport). The Emergence of Income Reporting [accounting history]. *The International Journal of Accounting*. 1975 Mar; 10(2): 85-107.
Methodology: theoretical.
Study of the emergence of the use of income data by management.

113. Brummet, R. Lee, United States (University of North Carolina). Internationalism and the Future of Accounting Education [accounting education]. *The International Journal of Accounting*. 1975 Sep; 11(1): 161-165.

Methodology: theoretical.
Discussion of the effects of multinational corporation on accounting education.

114. Buckmaster, Dale, United States/Germany/France (University of Delaware). Inflation Gains and Losses from Holding Monetary Assets and Liabilities 1918 to 1936: A Study of the Development of Accounting Thought in the United States [accounting theory]. *The International Journal of Accounting*. 1982 Mar; 17(2): 1-22.
Methodology: theoretical.
Discussion of the various theoretical and social factors influencing inflation accounting.

115. Burke, Walter L., none (University of South Wales, Kensington, Australia). Capital Expenditure Analysis [managerial accounting]. *The International Journal of Accounting*. 1974 Mar; 9(2): 143-154.
Methodology: deductive descriptive.
Discussion of the expenditure appraisal method of payback, accounting rate of return, discounted cash flow, sensitivity analysis, and probabilistic models.

116. Burlaud, Alain; Dahan, Lionel, United States/France (Ecole Superieure de Commerce de Paris/University of Paris//Ecole Superieure de Commerce de Paris). Global Productivity Surplus Accounts [economics and development]. *The International Journal of Accounting*. 1985 Sep; 21(1): 159-172.
Methodology: theoretical.
Presentation of the surplus account method. Provides a description of the methodology and the difficulties of application.

117. Burnett, R. Andrew, Europe (Price Waterhouse & Company). The Harmonization of Accounting Principles in the Member Countries of the European Economic Community [financial accounting and reporting]. *The International Journal of Accounting*. 1975 Sep; 11(1): 23-37.
Methodology: theoretical.
Study of the reasons why efforts toward harmonization are more evident at the legislative level, than at the level of national professional institutes. Discusses the actions of national governments and law-making bodies in the development and promulgation of policies.

118. Burns, Jane O., United States (Indiana University). A Study of International Accounting Education in the United States [accounting education]. *The International Journal of Accounting*. 1979 Sep; 15(1): 135-145.
Methodology: empirical descriptive.
Survey of international accounting programs at 151 schools. Indicates that only 31.6 percent of responding schools have an international accounting course and concludes that much improvement is needed in this area.

119. Burns, Jane O.; Ross, Ronald S., United Kingdom/Germany/United States/Canada (Indiana University//Indiana University). Establishing International Transfer Pricing Standards for Tax Audits of Multinational Enterprises [taxation]. *The International Journal of Accounting*. 1981 Sep; 17(1): 161-179.

Methodology: theoretical.

Discussion of various methods of, and influences on, transfer pricing. Concludes that the arm's length method is the most commonly used, even though it is difficult to define. Calls for bilateral treaties to resolve this problem.

120. Bursal, Nasuhi I., Turkey/United States/Europe (Ohio State University). The Accounting Environment and Some Recent Developments in Turkey [financial accounting and reporting]. *The International Journal of Accounting*. 1984 Mar; 19(2): 93-127.

Methodology: deductive descriptive.

Discussion of recent developments affecting the accounting profession in Turkey. Concludes that the changes in the legal structure and the economy have affected accounting practice significantly.

121. Callaghan, Joseph H.; Bazaz, Mohammad Sadegh, United States (Oakland University, Rochester, Michigan//Oakland University, Rochester, Michigan). Comprehensive Measurement of Foreign Income: The Case of SFAS No. 52 [financial accounting & reporting]. *The International Journal of Accounting*. 1992; 27(1): 80-87.

Methodology: empirical statistical.

Study to determine whether direct equity adjustments (EA's) of foreign subsidiaries of multi-national corporations be considered as income, allowing investors to use a comprehensive income to measure multinational corporations.

122. Callen, Jeffrey L.; Livnat, Joshua, United States/Israel/Brazil/Argentina (Hebrew University, Israel/University of Toronto//Vanderbilt University/Hebrew University, Israel). Is Historical Cost Accounting Possible during Hyperinflation? [accounting theory]. *The International Journal of Accounting*. 1984 Mar; 19(2): 73-81.

Methodology: deductive descriptive.

Examination of the various effects of inflation accounting on the historical cost model. Concludes that the historical cost model is still appropriate.

123. Camfferman, Kees, The Netherlands (Vrije Universiteit, Amsterdam, The Netherlands). Schmidt, Limperg and Dissemination of Current Cost Accounting in the Netherlands [managerial accounting]. *The International Journal of Accounting*. 1994; 29(3): 251-264.

Methodology: historical.

Historical perspective of the prevalance of Theodore Limperg's theories of cost accounting over those of Fritz Schmidt.

124. Campfield, William L., none (Office of Policy and Special Studies, U.S. General Accounting Office). Selected International Trends in Financial Planning and Control in the Public Sector [governmental]. *The International Journal of Accounting*. 1969 Sep; 5(1): 123-151.

Methodology: deductive descriptive.

Presentation of the attempts by selected governments to make significant improvements in their financial management practices.

125. Canning, Robert J., none (General Electric Company). Selection, Training and Placement of Overseas Accounting Personnel [professional development]. *The International Journal of Accounting*. 1968 Sep; 4(1): 41-50.
Methodology: deductive descriptive.
Presentation of the topics of selection, training, and placement of overseas accounting personnel. Covers the importance of these subjects in international business.

126. Carey, John L., none (American Institute of Certified Public Accountants). How Can Barriers against International Accounting Practice Be Eliminated? [public accounting]. *The International Journal of Accounting*. 1970 Sep; 6(1): 53-58.
Methodology: deductive descriptive.
Proposal that large international accounting firms maintain offices in developing countries in order to industrialize these countries and promote the growth of international accounting.

127. Carmony, Larry, Uruguay (Terra Corporation). Accounting in the Context of Its Environment: The Uruguayan Case [financial accounting and reporting]. *The International Journal of Accounting*. 1987 Mar; 22(2): 41-56.
Methodology: deductive descriptive.
Description of the accounting system in Uruguay. Describes internal and external conflicts in the development of the Uruguayan system.

128. Carrington, Athol S., none (University of New South Wales, Australia). Accounting Standards and the Profession--Seven Ages of Development [accounting history]. The Multinational Corporation: Accounting and Social Implications. Champaign, IL: Center for International Education and Research in Accounting; 1977 Jan: 41-46.
Methodology: historical.
Discussion of the seven ages of accounting.

129. Castle, Eric F., United Kingdom/United States (City of London Polytechnic). The Problems of Consolidation of Accounts of a Multinational Enterprise: Shell Group of Companies—Shell Transport and Trading Company, Limited, U.K. [accounting theory]. *The International Journal of Accounting*. 1980 Sep; 16(1): 209-219.
Methodology: deductive descriptive.
Description of the consolidation of the Shell group companies. Concludes that international standards create greater differences in reporting now than they did previously.

130. Chaderton, Robertine, Barbados (University of the West Indies). The Education of Professional Accountants in the Barbados [accounting education]. Comparative International Accounting Educational Standards. Champaign, IL: Center for International Education and Research in Accounting; 1990 Apr: 237-243.
Methodology: deductive descriptive.
Historical and institutional view of the accounting system in Barbados. Lists many reports calling for changes in the system, but concludes that the implementation of these reports will not be forthcoming.

131. Chambers, R. J., United States/Australia/Canada/New Zealand/South Africa (University of Sydney, Australia). The Functional Utility of Resale Price

Accounting [accounting theory]. *The International Journal of Accounting*. 1985 Sep; 21(1): 53-70.
Methodology: empirical descriptive.
Survey of accountants and users of financial statements regarding the presentation and valuation procedures of the assets presented.

132. Chan, Anthony Moung Yin; Chan, Pik Yu; Chan, Wai Lin; Leung, Man Ying; Won, Nga Yue. Hong Kong (City Polytechnic of Hong Kong). Segmental Reporting and Risk Reduction: The Hong Kong Experience [financial accounting & reporting]. *The International Journal of Accounting*. 1993; 28(3): 232-247.
Methodology: capital markets.
Assessment of segmental financial reporting of companies listed on the Hong Kong Stock Exchange in regards to investors' benefits and risk expectations. Statistical analysis proves that segmental reporting does not reduce risk to Hong Kong investors.

133. Chan, Anthony Moung-Yin. Global (The Chinese University of Hong Kong). The Pattern of the Theoretical Basis of IAS: Accounting Theory Models at the International Level [accounting theory]. *The International Journal of Accounting*. 1986 Sep; 22(1): 101-117.
Methodology: deductive descriptive.
Discussion of the development of the IASC and the committee's impact on international standards.

134. Chan, Anthony Moung-Yin. Hong Kong/United States (Chinese University of Hong Kong). The Speculative Accounting System in Hong Kong: Understanding Hong Kong's Accounting Reality [professional development]. Recent Accounting and Economic Developments in the Far East. Champaign, IL: Center for International Education and Research in Accounting; 1988 May: 197-218.
Methodology: theoretical.
Analysis and comparison of Hong Kong's current accounting practice with U.S. accounting practices. Contends that Hong Kong's speculative nature will be the determining force in its future GAAP.

135. Chan, Anthony Moung-Yin. Hong Kong (The City University of Hong Kong). Possible Factors of the Accuracy of Prospectus Earnings Forecast in Hong Kong [Misecllaneous]. *The International Journal of Accounting*. 1996; 31(3): 381-398.
Methodology: Empirical statistical.
An analysis of prospectus earnings forecasts (PEF) in assessing the quality of initial public offerings candidates. It indicates that prospectus earnings forecasts accuracy in the Hong Kong context tends to increase if the past profit variability is lower, the change in economic conditions is smaller, and the company's listing is more recent.

136. Chandler, Roy A., United States/United Kingdom (University of Wales, Cardiff, United Kingdom). The International Harmonization of Accounting: In Search

of Influence [professional development]. *The International Journal of Accounting*. 1992; 27(3): 222-233.
Methodology: historical.
Description of the progression toward international harmonization and the influences of organizations outside the accounting profession that have made an impact on international harmonization of accounting.

137. Chang, Lucia S.; Most, Kenneth S., Europe (Florida International University//Florida International University). International Accounting Standards: The Case of European Oil Companies [financial accounting and reporting]. *The International Journal of Accounting*. 1976 Sep; 12(1): 27-43.
Methodology: deductive descriptive.
Study of differences in accounting policies and practices followed by companies in the same industry in different European countries.

138. Chang, Lucia S.; Most, Kenneth S., United States/United Kingdom/New Zealand (Florida International University//Florida International University). An International Comparison of Investor Uses of Financial Statements [economics and development]. *The International Journal of Accounting*. 1981 Sep; 17(1): 43-60.
Methodology: empirical descriptive.
Survey of investors in the U.S., United Kingdom, and New Zealand which concludes that investors do use the financial statements for investment purposes.

139. Chang, Young H., Taiwan (North Dakota State University, Fargo). Taiwan's Accounting Profession: A Response to National Economic Growth [professional development]. *The International Journal of Accounting*. 1992; 27(1): 57-68.
Methodology: historical.
Study providing a fundamental description of the accounting profession in Taiwan as well as comparisons of Taiwan's and United States' growth in the accounting field.

140. Chastain, Clark E., none (University of Michigan at Flint). Accounting and Society: A Behavioral View [social effects of accounting]. *The International Journal of Accounting*. 1973 Mar; 8(2): 1-20.
Methodology: theoretical.
Examination of the interdependent behavioral relationship between society and accounting.

141. Chen, Kung H.; Balke, Thomas E., United States (University of Nebraska//University of Nebraska). Scale of Operation, Industry, and Financial Ratios [economics and development]. *The International Journal of Accounting*. 1979 Mar; 14(2): 17-28.
Methodology: empirical statistical.
Statistical survey of six industries from 1969-73 using data from compustat. Seven ratios were analyzed according to the size and industry. Findings show that industry has an effect on capital turnover, inventory turnover, receivable turnover, short term liquidity, and cash position. The findings in relation to size indicate that only capital turnover is affected.

142. Chen, Kung H.; Summers, Edward L., none (University of Nebraska//University of Texas at Austin). Should Accounting Data Be Single-Valued Measurements? [accounting theory]. *The International Journal of Accounting*. 1977 Mar; 12(2): 109-125.
Methodology: theoretical.
Study criticizing current accounting practices in single-valued measurements. Argues that more useful information would be available if the single-value methodology were changed to include multiple values.

143. Cheng, Philip C., China/Taiwan (Northern Illinois University). Accounting in Nationalist China [financial accounting and reporting]. *The International Journal of Accounting*. 1971 Mar; 6(2): 75-88.
Methodology: deductive descriptive.
Study of the modern accounting profession in Nationalist China which attempts to further the goal of better communications among nations.

144. Cheng, Philip C.; Jain, Tribhowan N., South Korea (Northern Illinois University// University of Florida). Economic Perspective and Accounting Practices in South Korea [economics and development]. *The International Journal of Accounting*. 1973 Mar; 8(2): 123-139.
Methodology: deductive descriptive.
Discussion of the economic activity in South Korea with emphasis on all aspects of accounting.

145. Chesebrough, Harry E., United States/Japan (industrial consultant). American Management Expertise: Exportable? [miscellaneous]. *The International Journal of Accounting*. 1975 Sep; 11(1): 145-159.
Methodology: theoretical.
Personal account of some of the conditions encountered by business people in their contacts with the Japanese.

146. Chesley, G. R.; Scheiner, J. H., Canada/United States (Dalhousie University, Canada//The University of Tennessee). The Statement of Changes in Financial Position: An Empirical Investigation of Canadian and U. S. Users in Nonpublic Companies [financial accounting and reporting]. *The International Journal of Accounting*. 1982 Mar; 17(2): 49-58.
Methodology: empirical descriptive.
Survey of the usefulness of the current "statement of changes." Concludes that this statement requires improvement.

147. Chetkovich, Michael N., none (Deloitte & Touche). An Appeal for Unity in Establishing Financial Accounting Standards [accounting theory]. *The International Journal of Accounting*. 1972 Sep; 8(1): 99-107.
Methodology: theoretical.
Discussion urging common international objectives and standards of accounting.

148. Chetkovich, Michael N., Australia/France/Germany/Canada/United Kingdom/ United States/Sweden (University of California at Berkeley). The International Federation of Accountants: Its Organization and Goals [financial accounting

and reporting]. *The International Journal of Accounting*. 1979 Sep; 15(1): 13-20.

Methodology: deductive descriptive.

Discussion of the events and proceedings that led to the formation of the International Federation of Accountants. Maintains that financial difficulties and difficulties with authority slow the growth of international accounting standards, but concludes that because of leadership and commitment the International Federation of Accountants will advance accounting at the international level.

149. Cheung, Joseph K.; Li, Mandy; Wu, Anne, United States/Taiwan (George Mason University//University of Maryland//National Chengchi University, Taiwan). A Comparative Analysis of US and Taiwanese Firms' Decisions to Issue Earnings Forecasts [accounting theory]. *The International Journal of Accounting*. 1991; 26(4): 264-276.

Methodology: empirical statistical.

Analysis of validity of U.S. positive accounting theories to the Taiwanese management earnings forecasts. Concludes that institutional backgrounds are important to the application of such theories.

150. Cho, Ik Soon; Park, Soong Hyun, Korea/United States (Korea University//Rutgers University-The State University of New Jersey at Newark). The Korean Profession: Its Role in the Economic Development of Korea [auditing]. Recent Accounting and Economic Developments in the Far East. Champaign, IL: Center for International Education and Research in Accounting; 1988 May: 97-113.

Methodology: deductive descriptive.

Discussion of the history of the accounting function in Korea listing social and economic pressures that may have an effect on the independence of the Korean auditor.

151. Choi, Frederick D. S., ASEAN countries (University of Hawaii at Manoa). ASEAN Federation of Accountants: A New International Accounting Force [financial accounting and reporting]. *The International Journal of Accounting*. 1979 Sep; 15(1): 53-75.

Methodology: deductive descriptive.

Discussion of the many professional and enviromental factors that led to the formation of the ASEAN Federation of Accountants. Concludes that the AFA is necessary to provide leadership and international representation to the ASEAN countries.

152. Choi, Frederick D. S., Europe (University of Hawaii at Honolulu). Financial Disclosure in Relation to the European Capital Market [economics and development]. *The International Journal of Accounting*. 1973 Sep; 9(1): 53-66.

Methodology: theoretical.

Study of the relationship between financial disclosure and capital markets.

153. Choi, Frederick D. S., none (University of Hawaii at Honolulu). Price-Level Adjustments and Foreign Currency Translation: Are They Compatible? [accounting theory]. *The International Journal of Accounting*. 1975 Sep; 11(1): 121-143.

Methodology: theoretical.

Discussion of the restate-translate versus translate-restate controversy with arguments supporting each model. Draws on recent recommendations of the AICPA's Accounting Objectives Study Group, discussing the controversy from the perspective of a normative decision-framework.

154. Choi, Frederick D. S., Japan/United States (University of Hawaii at Honolulu). Primary-Secondary Reporting: A Cross-Cultural Analysis [financial accounting and reporting]. *The International Journal of Accounting*. 1980 Sep; 16(1): 83-104.

Methodology: theoretical.

Study of the conversion of the financial reports of a Japanese company to U.S. standards. Finds that this conversion led to a misleading financial representation and calls for additional disclosure to enable users to identify social environmental concerns.

155. Choi, Frederick D. S.; Bavishi, Vinod B., United States/European Economic Community (New York University//University of Connecticut). Financial Accounting Standards: A Multinational Synthesis and Policy Framework [financial accounting and reporting]. *The International Journal of Accounting*. 1982 Sep; 18(1): 159-183.

Methodology: empirical descriptive.

Survey of 1,000 international firms (with consolidated income greater than 520 million) as to their adoption of international standards. Finds that these firms are slow in their adoption of international standards, a problem requiring the IASC to take a firmer leadership role.

156. Choi, Frederick D. S.; Foote, Paul Sheldon, European Economic Community (New York University//New York University). Western European Accounting Data Bases for Managers, Investors, and Researchers: An Analytical Survey [information systems]. The Recent Accounting and Economic Developments in Western Europe. Champaign, IL: Center for International Education and Research in Accounting; 1985 May: 121-128.

Methodology: empirical descriptive.

Survey of the European databases available to users.

157. Chow, Chee W.; Wong-Boren, Adrian, Mexico/United States (San Diego State University//San Diego State University). Audit Firm Size and Audit Quality: Some Evidence from Mexico [auditing]. *The International Journal of Accounting*. 1986 Mar; 21(2): 1-25.

Methodology: empirical statistical.

Study recording firm size and audit quality in Mexico. Finds that audit quality increases as a firm gets larger.

158. Chu, Jose Manuel, Panama (Factores Integrados, S.A., Panama/Universidad Santa Maria La Antigua). Accounting Principles and Practices in Panama [public accounting]. *The International Journal of Accounting*. 1973 Sep; 9(1): 44-52.

Methodology: deductive descriptive.

General overview of the accounting principles and practices in Panama.

159. Chu, Kuo-Chang, China (National Taiwan University). Accountancy Education in the Republic of China [accounting education]. *The International Journal of Accounting*. 1969 Mar; 4(2): 75-91.
Methodology: deductive descriptive.
Study of the objectives of educational institutions that provides statistical data to show the present conditions of these institutes and that evaluates the present accountancy education system and suggests ways to remedy the defects.

160. Chumachenko, Nikolai G.; Bedford Norton M., Soviet Union/United States (Kiev Institute of National Economy, Soviet Union//University of Illinois at Urbana-Champaign). Some Distinctive Aspects of Accounting in the USSR [financial accounting and reporting]. *The International Journal of Accounting*. 1968 Sep; 4(1): 29-40.
Methodology: deductive descriptive.
Comparative study of accounting in the Soviet Union and the U.S. offering suggestions for the further development of accounting principles and techniques.

161. Churchill, A. A., none (International Bank for Reconstruction and Development). The Balanced Budget in Highway Finance: A Dangerous Concept [governmental]. *The International Journal of Accounting*. 1968 Sep; 4(1): 101-110.
Methodology: theoretical.
Examination of the economics of road pricing. Holds that the orthodoxy of the balanced budget can lead to serious distortions in the allocation of resources.

162. Clapp, Charles L., none (Deloitte & Touche). National Variations in Accounting Principles and Practices [accounting theory]. *The International Journal of Accounting*. 1967 Sep; 3(1): 29-42.
Methodology: theoretical.
Study of the variations in national accounting principles and practices to discover what they indicate about the orientations and purposes of a given country.

163. Clarke, F. L.; Dean, G. W., Holland (the Netherlands)/Germany (The University of Newcastle, Australia//The University of Sydney, Australia). The Views of Limperg and Schmidt: Discovering Patterns and Identifying Differences from Chaotic Literature [accounting history]. *The International Journal of Accounting*. 1992; 27(4): 287-309.
Methodology: historical.
Comparative study of the literary contributions of Europeans Theodore Limperg and Fritz Schmidt to replacement price theory.

164. Clarke, Frank; Craig, Russell; Amernic, Joel H., United Kingdom/United States (University of Newcastle, Australia//University of Newcastle, Australia//University of Toronto). Misplaced Trust in Reliance on Published Accounting Data for Wage Negotiation: An International Perspective [financial accounting and reporting]. *The International Journal of Accounting*. 1990; 25(3): 184-201.
Methodology: theoretical.
Study of the use of published accounting information in labor negotiations. Contends that "monetary equivalent" information should be used rather than traditional published data.

165. Clay, Alvin A., United States (Villanova University). Undergraduate International Accounting Education [accounting education]. *The International Journal of Accounting*. 1975 Sep; 11(1): 187-192.
Methodology: deductive descriptive.
Explanation of the approach used by Villanova University.

166. Cohen, Jeffrey R.; Pant, Laurie W.; Sharp, David J., United States (Boston College/ /Suffolk University, Boston, Massachusetts//Boston College). An Empirical Investigation of Attitudinal Factors Affecting Educational Course Coverage of International Topics [accounting education]. *The International Journal of Accounting*. 1991; 26(4): 286-301.
Methodology: empirical descriptive.
Survey of identification of beliefs affecting inclusion of international accounting issues in undergraduate accounting curriculum. Finds that favorable attitudes toward internationalization are significantly correlated with course coverage.

167. Cohen, Jeffrey R.; Pant, Laurie W.; Sharp, David J., United States (Boston College/ /Suffolk University, Boston, Massachusetts//Boston College). A Methodological Methodology on Cross-cultural Accounting Ethics Research [social effects of accounting]. *The International Journal of Accounting*, 1996; 31(1): 55-66.
Methodology: empirical descriptive.
A report of an empirical test of the usefulness of Hofstede's five dimensions of culture to predict cross-cultural differences in ethical sensitivity. Demonstrates that these measures of culture can be used to develop directional hypothesis concerning cross-cultural differences in ethical perceptions.

168. Comiskey, Eugene E.; Groves, Roger E. V., United Kingdom/United States (Georgia Institute of Technology//The University of Wales Institute of Science and Technology). United Kingdom Developments in Interperiod Tax Allocation [taxation]. *The International Journal of Accounting*. 1981 Mar; 16(2): 1-9.
Methodology: deductive descriptive.
Comparison of the tax deferral practices of the U.S. to those of the U.K.

169. Cooke, T. E., Japan (University of Exeter, England). An Assessment of Voluntary Disclosure in Annual Reports of Japanese Corporations [financial accounting & reporting]. *The International Journal of Accounting*. 1991; 26(3): 174-189.
Methodology: empirical statistical.
Discussion regarding voluntary disclosure of Japanese annual reports and the influences in which a company's size, stock market listing, and industry have on such disclosure.

170. Copeland, Ronald M.; Ingram, Robert W., United States (University of South Carolina//University of South Carolina). An Evaluation of Accounting Alternatives for Foreign Currency Transactions [financial accounting and reporting]. *The International Journal of Accounting*. 1978 Mar; 13(2): 15-26.
Methodology: theoretical.
Presentation of the theoretical and empirical evidence in argument against SFAS 8. Suggests that deferral of interim foreign exchange gains and losses is a better alternative.

171. Costouros, George J., Greece (San Jose State University). Accounting Education and Practice in Greece [accounting education]. *The International Journal of Accounting*. 1975 Sep; 11(1): 95-106.
Methodology: deductive descriptive.
Survey of the contributions made by accounting education in Greece to the professional development of accounting and the socio-economic needs in both the private and public sectors.

172. Costouros, George J., Greece (California State University at San Jose). Development of Banking and Related Bookkeeping Techniques in Ancient Greece (400-300 B.C.) [accounting history]. *The International Journal of Accounting*. 1973 Mar; 8(2): 75-81.
Methodology: historical.
Brief review of the developments in banking and bookkeeping in Greece (400-300 B.C.).

173. Craig, Russell J.; Diga, Joselito G., Brunei/Indonesia/Malaysia/Philippines/Singapore/Thailand (The Australian National University). Financial Reporting Regulation in ASEAN: Features and Prospects [financial accounting and reporting]. *The International Journal of Accounting*, 1996; 31(2): 239-259.
Methodology: deductive descriptive
An analysis of similarities and differences in the financial reporting regulation practices of the six countries comprising the Association of South East Asian Nations (ASEAN). Similarities are observed in the objectives of financial reporting regulations and in the participation of the private sector in accounting standards setting and enforcement. Differences are discerned in each country's companies law requirements, securities market regulations, accounting standards-setting procedures and accounting standards content.

174. Cravens, Karen S.; Shearon, Jr. Winston T., United States (The University of Tulsa//Texas A&M University). An Outcome-Based Assessment of International Transfer Pricing Policy [miscellaneous]. *The International Journal of Accounting*, 1996; 31(4): 419-443.
Methodology: deductive descriptive.
An analysis of the consequences of international transfer pricing for multinational entities in the US. It indicates that firms employ international transfer pricing to meet a variety of objectives, and the dollar value of international transfers and the foreign sales percentage are both significant explanatory variables for the financial outcomes of these objectives.

175. Cummings, Joseph P., none (KPMG Peat Marwick). The International Accounting Standards Committee [auditing]. *The International Journal of Accounting*. 1975 Sep; 11(1): 31-37.
Methodology: deductive descriptive.
Study of progress made by the IASC since 1973. Concludes that the IASC is willing to meet problems which go to the root of most published accounts, and that, due to its success in issuing strong standards, its future seems bright.

176. da Costa, Richard C.; Bourgeois, Jacques C.; Lawson, William M., United States/United Kingdom/Europe (Carleton University, Canada//Carleton University, Canada//Carleton University, Canada). A Classification of International Finan-

cial Accounting Practices [financial accounting and reporting]. *The International Journal of Accounting*. 1978 Mar; 13(2): 73-85.
Methodology: empirical descriptive.
Survey of the U.S., U.K., and European accounting models. Concludes that the U.K.'s model served as the basis for the other two.

177. Dahmash, Naim, Arab Countries (University of Jordan). External Financial Reporting in the Arab Countries and Its Role in the Investment Decision-Making Process [financial accounting & reporting]. Changing International Financial Markets and Their Impact on Accounting. Champaign, IL: Center for International Education and Research in Accounting, Department of Accountancy; 1992: 155-174.
Methodology: deductive descriptive.
Evaluation of relationships between financial reporting and financial markets in the Arab Countries and various economic consequences of these relationships.

178. Dahmash, Naim H., Jordan (University of Jordan). Accounting Aspects of Economic Development Planning in Jordan [economics and development]. The Multinational Corporation: Accounting and Social Implications. Champaign, IL: Center for International Education and Research in Accounting; 1977 Jan: 139-149.
Methodology: theoretical.
Brief description of accounting history in Jordan. Proposes an economic model for economic growth.

179. Dahmash, Naim H., Arab Countries (University of Jordan). Public Auditing Developments in the Arab States: A Comparative Study [auditing]. *The International Journal of Accounting*. 1982 Sep; 18(1): 89-114.
Methodology: empirical descriptive.
Survey of the various auditing and reporting practices in the Arab states. Concludes that the Arab states should place more emphasis on operational auditing as a source of economic planning information.

180. Dahmash, Naim H.; Zimmerman, V. K., Egypt/Arab Countries (University of Jordan//University of Illinois at Urbana-Champaign). A Unified Governmental Accounting System for the Arab Countries [governmental]. The Recent Accounting and Economic Developments in the Middle East. Champaign, IL: Center for International Education and Research in Accounting; 1985 May: 101-125.
Methodology: deductive descriptive.
Discussion of the governmental accounting systems in the Arab countries as proposed by the Arab Organization of Administrative Sciences in 1980.

181. Dascher, Paul E.; Smith, Charles H.; Strawser, Robert H., none (Drexel University//Arizona State University//Texas A & M University). Accounting Curriculum Implications of the Multinational Corporation [accounting education]. *The International Journal of Accounting*. 1973 Sep; 9(1): 81-97.
Methodology: empirical descriptive.
Study of the influence of the multinational corporation on future accounting curriculum.

182. Dau, Khalifa, none (University of Garyounis, Libya). A Probabilistic Income Determination Theory [accounting theory]. *The International Journal of Accounting*. 1978 Sep; 14(1): 39-56.
Methodology: theoretical.
Presentation of a statistical model to report a probability distribution of net income using generally accepted accounting principles. Concludes that such a model will enhance the usability of financial statements.

183. Davidson, Ronald A.; Chrisman, Heidi Hadlich, Canada (Simon Fraser University, Burnaby, British Columbia//Hautes Etudes Commerciales, Montreal, Quebec). International Comparison of International Standards: The Case of Uncertainty Expressions [professional development]. *The International Journal of Accounting*. 1993; 28(1): 1-16.
Methodology: empirical descriptive.
Comparative study examining differences in the translation of uncertainty expressions in international accounting standards in English and French-Canadian versions.

184. Daynes, A.; Aiken, M., none (Victoria University of Wellington, New Zealand//La Trobe University, Australia). A. C. Littleton's Very Long-Term Perspective of Public Accounting Practice: Historical, International and Ethical Foundations [accounting theory]. *The International Journal of Accounting*. 1990; 25(1): 1-18.
Methodology: theoretical.
Presentation of Littleton's framework in the long term sense. Presents the historical, philosophical, and social contexts.

185. Deakin, Edward B.; Norwood, Gyles R.; Smith, Charles H., Japan (University of Texas at Austin//Coopers & Lybrand//Arizona State University). The Effect of Published Earnings Information on Tokyo Stock Exchange Trading [economics and development]. *The International Journal of Accounting*. 1974 Sep; 10(1): 123-136.
Methodology: capital markets.
Study of the relationship between earnings announcements and volume-and-price activity of stocks on the Tokyo Stock Exchange using tests for determining the correlation between the release of earnings information and activity in a company's stock. These tests were first applied to activity on the New York Stock Exchange. Concludes that the activity in a company's stock arises from the effect of earnings announcements on investor expectations and trading.

186. Demirag, Istemi S., United States/United Kingdom (University of Sheffield, Great Britain). A Review of the Objectives of Foreign Currency Translation [financial accounting and reporting]. *The International Journal of Accounting*. 1987 Mar; 22(2): 69-86.
Methodology: theoretical.
Study of the current factors regarding currency translation. Holds that translation methods will not provide useful information until current value methods are adopted.

187. Dheeriya, Prakash L., United States/Germany (North Texas State University). A Case for Special Drawing Rights as a Unit of Account [accounting theory]. *The International Journal of Accounting*. 1985 Sep; 21(1): 71-87.
Methodology: theoretical.
Presentation of the use of special drawing rights as a unit of account when foreign currencies are involved.

188. Dixon. Rob; Jaruga, A., Poland (University of Durham, England//University of Lodz, Poland). The Changing Face of Accountancy in Poland [miscellaneous]. The New Europe: Recent Political and Economic Implications for Accountants and Accounting. Champaign, IL: Center for International Education and Research in Accounting; 1994: 233-252.
Methodology: deductive descriptive.
Presentation of present-day accounting in Poland and those influences which impact the Polish accounting system's reformation process.

189. Donaldson, Bronwyn; Lal, Mohan, New Zealand (KPMG Peat Marwick//University of Otago, New Zealand). Existence of and Needs for Informal Accounting Information Systems: A Case Study of New Zealand Companies [information systems]. *The International Journal of Accounting*. 1988 Mar; 23(2): 85-93.
Methodology: empirical descriptive.
Study of informal accounting information systems in New Zealand. Finds that such systems exist in an unstructured form and contribute to the formal system.

190. Donaldson, Howard M.; Pai, Amar K., United States (International Group of the Burroughs Corporation//International Group of the Burroughs Corporation/Oakland University). Management and Performance Evaluation: An International Perspective [managerial accounting]. Managerial Accounting: An Analysis of Current International Application. Champaign, IL: Center for International Education and Research in Accounting; 1984 Jan: 1-21.
Methodology: deductive descriptive.
Discussion of the current and potential uses of the computer in management and performance evaluation. Concludes that such a system must be objective, provide timely accountability, facilitate communication and be cost effective.

191. Doost, Roger K., Africa/Australia/New Zealand/European Economic Community/North America/Middle East/Central & South America (Clemson University). Alternative Techniques to Measure the Well-Being of a Region [economics and development]. *The International Journal of Accounting*. 1985 Mar; 20(2): 95-101.
Methodology: theoretical.
Discussion of the limitations of per capita GNP. Presents some alternatives to per capita GNP.

192. Doupnik, Timothy S., global (University of South Carolina). Evidence of International Harmonization of Financial Reporting [financial accounting and reporting]. *The International Journal of Accounting*. 1987 Sep; 23(1): 47-67.
Methodology: empirical statistical.
Study of the financial reporting used in practices of several different countries. Substantial differences still exist.

193. Doupnik, Timothy S., Brazil/United States (University of Illinois at Urbana-Champaign). Indexation: Brazil's Response to Inflation [governmental]. *The International Journal of Accounting*. 1982 Sep; 18(1): 199-220.
Methodology: theoretical.
Discussion of the history of inflation accounting in Brazil. Calls for an investigation regarding the cost of implementing the U.S. system in Brazil.

194. Doupnik, Timothy S.; Martins, Eliseu; Barbieri, Geraldo, Brazil (University of South Carolina//Universidade de Sao Paulo//University of South Carolina). Innovations in Brazilian Inflation Accounting [financial accounting & reporting]. *The International Journal of Accounting*. 1995; 30(4): 302-317.
Methodology: empirical descriptive.
Introduction and discussion of innovations of monetary corrections in inflation accounting in Brazil.

195. Doupnik, Timothy S.; Salter, Stephen B., Global (University of South Carolina// Texas A&M University). External Environment, Culture, and Accounting Practice: A Preliminary Test of A General Model of International Accounting Development [social effects]. *The International Journal of Accounting*. 1995; 30(3): 189-207.
Methodology: empirical statistical.
Statistical examination of the relationship between countries' external environmental factors and their accounting practices.

196. Doupnik, Timothy S.; Rolfe, Robert J., Europe/Asia/Africa/Far East/Middle East/ United States/United Kingdom/Canada/Central & South America (University of South Carolina//University of South Carolina). Geographic Area Disclosures and the Assessment of Foreign Investment Risk for Disclosure in Accounting Statement Methodologies [financial accounting and reporting]. *The International Journal of Accounting*. 1990; 25(4): 252-267.
Methodology: empirical descriptive.
Study of 520 CFAs regarding direct foreign investment risk. Shows that dividing a hemisphere into two components affects risk assessment.

197. Drury, D. H., Canada/United States (McGill University, Canada). Earnings Per Share: A Canada-United States Comparison [financial accounting and reporting]. *The International Journal of Accounting*. 1977 Sep; 13(1): 29-51.
Methodology: modeling.
Presentation of a model to determine the difference between earnings per share in Canada and the U.S. Concludes that the Canadian model generally reflects a lower earnings per share.

198. Duangploy, Orapin, United States (University of Wisconsin at Oshkosh). The Sensitivity of Earnings Per Share to Different Foreign Currency Translation Methods [financial accounting and reporting]. *The International Journal of Accounting*. 1979 Mar; 14(2): 121-134.
Methodology: empirical statistical.
Study using a computer model to measure the effects of different translation methods. States that during periods of little economic change all translation methods provide the same results and concludes that the temporal method provides the best results.

199. Duangploy, Orapin; Zieha, Eugene L.; Gray, Dahli, United States (University of Houston//University of Maryland/University of Missouri at Columbia//University of Notre Dame). SFAS No.52 and the Statement of Changes in Financial Position: A Survey and Proposal for Change [financial accounting and reporting]. *The International Journal of Accounting*. 1987 Mar; 22(2): 25-40.
Methodology: empirical descriptive.
Survey of the usefulness of the statement of changes in financial position, presenting a model statement of cash flows, which is compared to that of the FASB.

200. Due, John F., Third World Countries/Developing Countries (University of California at Berkeley). The Institutional Environment and the Tax Structure in Developing Economies [taxation]. *The International Journal of Accounting*. 1968 Sep; 4(1): 17-28.
Methodology: theoretical.
Discussion of four requirements for developing countries striving for a higher rate of growth including increased savings, foreign exchange, entrepreneurship, and infrastructure. Stresses the importance of government and taxation.

201. Duerr, Edwin C.; Duerr, Mitsuko S., Brazil (San Francisco State College//Daniel, Mann, Johnson and Mendenhall). Financing in Northeast Brazil: Problems and Opportunities in a Developing Area [economics and development]. *The International Journal of Accounting*. 1968 Mar; 3(2): 105-116.
Methodology: theoretical.
Examination of the particular problems of financing a new company in Northeast Brazil, centering on what happens when local sources provide all of the funds.

202. Dufey, Gunter, none (University of Michigan). The Outlook for the International Monetary System and Implications for Subsidiary Valuation [economics and development]. *The International Journal of Accounting*. 1970 Sep; 6(1): 25-33.
Methodology: deductive descriptive.
Outline of the current status of the international monetary system.

203. Dufey, Gunter, none (University of Michigan). Recent Developments in International Money and Capital Markets [economics and development]. *The International Journal of Accounting*. 1972 Mar; 7(2): 77-90.
Methodology: deductive descriptive.
Report on the sources of international funds and the mechanisms used in converting these funds into profitable real capital.

204. Dykxhoorn, Hans J.; Sinning, Kathleen E., United States/Germany (Western Michigan University//Western Michigan University). The Independence Issue Concerning German Auditors: A Synthesis [auditing]. *The International Journal of Accounting*. 1981 Mar; 16(2): 163-181.
Methodology: deductive descriptive.
Discussion of the independence of the German auditor comparing the current situation in the U.S. and Germany. Concludes that the German profession will have to change both its requirements and public perceptions regarding auditors independence.

205. Edwards, James Don; Barrack, John B., United Kingdom/United States (University of Georgia//University of Kentucky). Objectives of Financial Statements and Inflation Accounting: A Comparison of Recent British and American Proposals [financial accounting and reporting]. *The International Journal of Accounting*. 1976 Mar; 11(2): 11-32.
Methodology: deductive descriptive.
Study comparing the recommendations of the Sandilands Committee with those of the Trueblood Study Group, which concludes that the Trueblood Report contains broad guidelines on what financial statements should seek to report and the Sandilands Report, guidance designed to alleviate accounting for effects of inflation.

206. Eikharouf, Farouk Wasef, Saudi Arabia (Arab National Bank in Saudi Arabia). Generally Accepted Accounting Principles in Saudi Arabia [financial accounting and reporting]. The Recent Accounting and Economic Developments in the Middle East. Champaign, IL: Center for International Education and Research in Accounting; 1985 May: 127-149.
Methodology: empirical descriptive.
Survey to determine the level of development and usefulness of Saudi Arabian GAAP. Indicates that Saudi Arabian GAAP are not meeting users' needs and must be better organized.

207. Elam, Rick; Henaidy, Hamid, United States/Australia/Canada/Saudi Arabia (University of Missouri at Columbia//King Abdulaziz University, Saudi Arabia). Transfer Pricing for the Multinational Corporation [managerial accounting]. *The International Journal of Accounting*. 1981 Mar; 16(2): 49-65.
Methodology: modeling.
Presentation of a mathematical model to analyze resource allocation and transfer prices together rather than separately.

208. Elkharouf, Farouk Wasef, Third World (Arab Bank, Ltd.). The Impact of Unified Risk Assets Ratios on International Banks and Accounting Standards [economics & development]. Changing International Financial Markets and Their Impact on Accounting. Champaign, IL: Center for International Education and Research in Accounting, Department of Accountancy; 1992: 175-194.
Methodology: capital markets.
Examination of the impacts of proposed unified risk ratios and banks' management decisions and on the harmonization of accounting.

209. Elliott, Edward L., Central & South America (University of Illinois at Urbana-Champaign). Accounting and Economic Development in Latin America [economics and development]. *The International Journal of Accounting*. 1972 Sep; 8(1): 89-97.
Methodology: theoretical.
Explanation of the role of the accountant in the economic development of Latin America.

210. Elliott, Edward L., developing countries/third world countries (University of Illinois at Urbana-Champaign). The Managerial Role of Governmental

Accounting in Economic Development [economics and development]. *The International Journal of Accounting*. 1968 Sep; 4(1): 129-136.
Methodology: theoretical.
Report on government participation in economic growth which calls for the adoption of techniques designed to obtain efficient use of available resources. Contends that accounting offers one of the best means to attain the efficient allocation of resources and the coordination and control of governmental actions.

211. Elvik, Kenneth, none (Iowa State University). Acquisition Cost Versus Revaluation: A Historical Perspective [accounting history]. *The International Journal of Accounting*. 1974 Mar; 9(2): 155-167.
Methodology: theoretical.
Study of the conventional model for long-lived asset accounting, which is based on acquisition cost.

212. Emenyonu, Emmanuel N.; Gray, Sidney J., France/Germany/Japan/United Kindom/United States (Sacred Heart University, the University of Warwick). International Accounting Harmonization and the Major Developed Stock Market Countries: An Empirical Study [financial accounting and reporting]. *The International Journal of Accounting*, 1996; 31(3): 269-279.
Methodology: empirical statistical
An assessment of the extent to which the accounting measurement and associated disclosure practices of large listed companies have become more harmonized internationally. Shows that while progress has been made in some respects, international accounting harmonization has remained an elusive goal.

213. Enthoven, Adolf J. H., none (University of Illinois at Urbana-Champaign). The Unity of Accountancy in an International Context [accounting theory]. *The International Journal of Accounting*. 1973 Sep; 9(1): 113-133.
Methodology: deductive descriptive.
Discussion of the areas of unification, and standardization in international accounting. Emphasizes the need for cohesion between the branches of accountancy and the disciplines of accounting and economics.

214. Enthoven, Adolf J. H., Russia (University of Texas, Dallas). Joint Venture Accounting in the Former Soviet Union (USSR) [miscellaneous]. The New Europe: Recent Political and Economic Implications for Accountants and Accounting. Champaign, IL: Center for International Education and Research in Accounting; 1994: 193-210.
Methodology: deductive descriptive.
Analysis of the accounting aspects of joint ventures in the former USSR.

215. Enthoven, Adolph J. H., none (University of Illinois at Urbana-Champaign). Accounting and Development Programming [economics and development]. *The International Journal of Accounting*. 1967 Sep; 3(1): 107-120.
Methodology: theoretical.
Study of interdependency of accounting and development programming. Concludes that accounting may assist economic progress in developing countries.

216. Enthoven, Adolph J. H., none (University of Texas at Dallas). International Management Accounting: Its Scope and Standards [managerial accounting]. *The International Journal of Accounting*. 1982 Mar; 17(2): 59-74.
Methodology: deductive descriptive.
Discussion of international managerial accounting which concludes that, in order to develop, this area needs support from various professional organizations worldwide.

217. Estes, Ralph, none (Wichita State University). The Profession's Changing Horizons: A Survey of Practitioners on the Present and Future Importance of Selected Knowledge and Skills [accounting education]. *The International Journal of Accounting*. 1979 Mar; 14(2): 47-70.
Methodology: empirical descriptive.
Discussion of a survey which asked both entry and senior level accountants to rank aspects of accounting education programs in the order of importance. Finds that communication, both written and verbal, is regarded as important.

218. Evans, Bergen, none (Northwestern University). On Authority [social effects of accounting]. *The International Journal of Accounting*. 1970 Sep; 6(1): 1-14.
Methodology: theoretical.
Discussion of the various philosophies underlying human societies.

219. Evans, Thomas G.; Folks, Jr William R., United States (University of South Carolina//University of South Carolina). SFAS No. 8: Conforming, Coping, Complaining, and Correcting! [accounting theory]. *The International Journal of Accounting*. 1979 Sep; 15(1): 33-43.
Methodology: empirical descriptive.
Survey of multinational corporations as to the effect SFAS no. 8 has had on them. Concludes that the FASB methodology toward SFAS is correct and argues that SFAS no. 8 must be changed.

220. Evans, Thomas G.; Taylor, Martin E., United States/United Kingdom/Japan/West Germany (University of South Carolina). 'Bottom Line Compliance' with the IASC: A Comparative Analysis [public accounting]. *The International Journal of Accounting*. 1982 Sep; 18(1): 115-128.
Methodology: empirical descriptive.
Study of five countries regarding their adoption of promulgated international standards. Finds that few international standards have been adopted.

221. Falk, Haim, Canada/United Kingdom/United States/Australia (McGill University, Canada). Current Value Accounting Preferences: The Case for Canada [financial accounting and reporting]. *The International Journal of Accounting*. 1979 Mar; 14(2): 29-46.
Methodology: empirical descriptive.
Survey of financial analysts, bankers, and chartered accountants regarding the methodolgy used for current value accounting. Finds that the needs are determined by the investment decision.

222. Falk, Haim; Errunza, Vihang R., United States/West Germany/United Kingdom/Japan (McGill University, Canada//McGill University, Canada). Risk and Profitability Differences Between National and Multinational Firms [managerial accounting]. The Multinational Corporation: Accounting and Social Implica-

tions. Champaign, IL: Center for International Education and Research in Accounting; 1977 Jan: 63-91.
Methodology: empirical statistical.
Study of the ways in which multinational corporations differ in their profitability performance from similar domestic corporations.

223. Falk, Haim; Frumer, Samuel; Heintz, James A., Israel/United States (Indiana University//Indiana University//Indiana University). Accounting for Stock Reacquisitions: Israel and the United States Compared [public accounting]. *The International Journal of Accounting*. 1974 Mar; 9(2): 111-123.
Methodology: deductive descriptive.
Examination of the accounting treatment of stock transactions by corporations in the U.S. and Israel. Suggests that each of the legal and accounting requirements can contribute to improving the traditional means of accounting for corporation stock acquisitions.

224. Fang, Zhilong; Tang, Yunwei, China (Shanghai University of Finance & Economics//Shanghai University of Finance & Economics). Recent Accounting Developments in China: An Increasing Internationalization [economics & development]. *The International Journal of Accounting*. 1991; 26(2): 85-103.
Methodology: deductive descriptive.
Discusses ideological evolution of Chinese accounting practices research and education and the socio-economic impact on them.

225. Fantl, Irving L., United States (Baruch College, City University of New York). Control and the Internal Audit in the Multinational Firm [auditing]. *The International Journal of Accounting*. 1975 Sep; 11(1): 57-65.
Methodology: theoretical.
Study of some aspects of the accounting and control problems faced by multinational firms. Emphasizes barriers in communication among nations and differences in attitudes towards business goals.

226. Farag, Shawki M., Developed Countries/Developing Countries (The American University, Egypt). Accounting in the 1990s: An International Perspective [professional development]. *The International Journal of Accounting*. 1991; 26(4): 243-251.
Methodology: theoretical.
Comparison of responses of accounting the profession to economic conditions and changes. Urges adjustment of accounting practices to meet the needs of decision making.

227. Farag, Shawki M., China (The American University, Egypt). Accounting Developments in the People's Republic of China: A Commentary [financial accounting and reporting]. *The International Journal of Accounting*. 1988 Mar; 23(2): 145-149.
Methodology: deductive descriptive.
Description of developments in China affecting the accounting profession.

228. Farag, Shawki M., none (Cairo University, Egypt). Littleton's Views on Social Accounting--An Elaboration [social effects of accounting]. *The International Journal of Accounting*. 1967 Mar; 2(2): 123-132.

Methodology: deductive descriptive.
Study elaborating on A. C. Littleton's views on social accounting.

229. Farag, Shawki M., developing countries/Asia/Africa/Egypt (The American University, Egypt). Management and Development: The Case of Performance Evaluation [financial accounting and reporting]. The Recent Accounting and Economic Developments in the Middle East. Champaign, IL: Center for International Education and Research in Accounting; 1985 May: 13-23.
Methodology: deductive descriptive.
Study of the effects that changing prices have on the growth of developing countries. Discusses management's responsibilities for such changes and calls for further research.

230. Farag, Shawki M., none (World Bank). The Problem of Performance Evaluation in International Accounting [managerial accounting]. *The International Journal of Accounting*. 1974 Sep; 10(1): 45-53.
Methodology: theoretical.
Discussion of capital performance evaluation as the extension of the accounting function to record and report intercountry operations. Identifies this as a key problem in developing countries which need to expand their level of investment and the inflow of foreign capital, and concludes that it makes multinational performance evaluation a much-needed accounting function.

231. Farag, Shawki M., third world countries/developing countries (Cairo University, Egypt). Project vs. General Development Financing: A Comment [economics and development]. *The International Journal of Accounting*. 1968 Sep; 4(1): 115-120.
Methodology: theoretical.
Critique of favored project financing in developing countries, which offers a proposal for general development financing.

232. Farag, Shawki M., none (Cairo University, Egypt). The Valuation of National Capital and the Development of Accounting Theory [financial accounting and reporting]. *The International Journal of Accounting*. 1969 Sep; 5(1): 153-169.
Methodology: deductive descriptive.
Examination of the concept of national capital, its uses, and some of the problems associated with its valuation. Advocates greater accounting research in capital to cover the macroaggregates because these aggregates are the summation of the microvariables.

233. Fechner, Harry H. E.; Kilgore, Alan, Global (University of Western Sydney, Nepean, Australia//University of Western Sydney). The Influence of Cultural Factors on Accounting Practice [public accounting]. *The International Journal of Accounting*. 1994; 29(3): 265-277.
Methodology: deductive descriptive.
Examination of various external influences, especially culture, on accounting practice.

234. Fekrat, M. Ali, United States/Germany/European Economic Community (Georgetown University). Accounting for Forward Exchange Contracts [managerial accounting]. *The International Journal of Accounting*. 1984 Mar; 19(2): 83-92.

Methodology: theoretical.
Critical examination of the present methodology for forward exchange contracts. Concludes that the methodology is inconsistent with GAAP.

235. Fekrat, M. Ali, Mexico/developing countries (Georgetown University). Accounting Non-Response to the International Debt Crisis: A Positive Theory Perspective [accounting theory]. *The International Journal of Accounting*. 1989; 24(2): 131-141.
Methodology: theoretical.
Presentation of the accounting profession's reaction to the less developed countries debt crisis.

236. Fekrat, M. Ali, Global (Georgetown University). Globalization of Financial Markets and Financial Reporting Standards [professional development]. Changing International Financial Markets and Their Impact on Accounting. Champaign, IL: Center for International Education and Research in Accounting, Department of Accountancy; 1992: 195-211.
Methodology: deductive descriptive.
Study to determine which trends in the development of current accounting standards have strengthened and weakened international accounting harmonization.

237. Fekrat, M. Ali, Kuwait/Saudi Arabia/Libya/United Arab Emirates/Sudan (Georgetown University). Islamic Banking: Concepts, Practices, and Implications for Accounting: The Case of Kuwait [economics and development]. The Recent Accounting and Economic Developments in the Middle East. Champaign, IL: Center for International Education and Research in Accounting; 1985 May: 177-182.
Methodology: deductive descriptive.
Discussion of the social and economic issues affecting the development of the Islamic banking system.

238. Fekrat, M. Ali, none (Georgetown University). Multinational Accounting: A Technical Methodology [accounting theory]. *The International Journal of Accounting*. 1979 Sep; 15(1): 95-103.
Methodology: theoretical.
Analysis of the conventional temporal method concludes that this method produces inaccurate results and holds that an economic method that measures purchasing power would be more effective.

239. Fekrat, M. Ali; Inclan, Carla; Petroni, David, Global (Georgetown Universiy and National Semiconductor). Corporate Environmental Disclosure: Competitive Disclosure Hypothesis Using 1991 Annual Report Data [Financial Accounting and Reporting]. *The International Journal of Accounting*, 1996; 31(2): 175-195.
Methodology: Empirical descriptive.
Studies of the scope and accuracy of environmental disclosures made in corporate annual reports. Examination of the scope of environmental disclosures for 168 companies in six industries and 18 countries found that there are significant variations in environmental disclosures and hence no support for the voluntary disclosure hypothesis, and no apparent association between disclosure and environmental performance.

240. Felt, Howard M., United States (Temple University). The Effort and Authority of the AICPA in the Development of `Generally-Accepted Accounting Principles' [accounting theory]. *The International Journal of Accounting*. 1968 Mar; 3(2): 11-27.
Methodology: deductive descriptive.
Study of the need for clarification of the principles which underlie accounting statements. Concludes that this effort will continue to be a primary responsibility of the AICPA.

241. Ferris, Kenneth R.; Hayes, David C., United Kingdom (Northwestern University// University of British Columbia). Some Evidence on the Determinants of Profit Forecast Accuracy in the United Kingdom [financial accounting and reporting]. *The International Journal of Accounting*. 1977 Mar; 12(2): 27-36.
Methodology: empirical descriptive.
Study of some of the determinants of profit forecast accuracy, as seen in profit forecasts in prospectuses from firms listed on the following exchanges: London, Belfast, Irish, Scottish, Northern, and Midlands and Western.

242. Fieldcamp, Dale, Brazil (Caterpillar Tractor Company). International Accounting in an Inflationary Economy [financial accounting and reporting]. *The International Journal of Accounting*. 1968 Sep; 4(1): 155-164.
Methodology: deductive descriptive.
Study of aspects of international accounting related to an inflationary economy and to a fluctuating foreign exchange rate.

243. Firth, Michael, United Kingdom (Victoria University of Wellington, New Zealand). A Cross-Sectional Analysis of Qualified Audit Reports [auditing]. *The International Journal of Accounting*. 1980 Mar; 15(2): 47-59.
Methodology: empirical statistical.
Statistical study to determine if the characteristics were different in firms receiving uncertainty qualifications or procedural qualifications in the United Kingdom. Shows that these reports are not correlated to auditing firm, industry, or company size.

244. Firth, Michael, United Kingdom (Victoria University of Wellington, New Zealand). A Study of the Consensus of the Perceived Importance of Disclosure of Individual Items in Corporate Annual Reports [financial accounting and reporting]. *The International Journal of Accounting*. 1978 Sep; 14(1): 57-70.
Methodology: empirical descriptive.
Results of a survey that asked users, auditors, and accountants about the importance of financial disclosure. Finds that auditors and users place a higher level of importance on disclosure than do the internal sources of such disclosure.

245. Fitzgerald, Richard D., United States/United Kingdom/Canada (Price Waterhouse & Company). International Harmonization of Accounting and Reporting [financial accounting and reporting]. *The International Journal of Accounting*. 1981 Sep; 17(1): 21-32.
Methodology: deductive descriptive.
Discussion of factors affecting agreement on standards among the international organizations. Contends that politics may hamper international standard-setting

and calls for cooperation among the different organizations following the lead of recent cooperation among the U.S., Canada, and the U.K.

246. Folks, Jr William R.; Evans, Thomas G.; Jilling, Michael, none (College of Business Administration, Columbia//University of South Carolina//University of South Carolina at Spartanburg). Foreign Exchange Risk Management at American Multinationals: Social Responsibility or Earnings Protection? [financial accounting and reporting]. The Multinational Corporation: Accounting and Social Implications. Champaign, IL: Center for International Education and Research in Accounting; 1977 Jan: 47-61.
Methodology: empirical descriptive.
Survey of multinational firms with regard to their foreign exchange risk management policies.

247. Foo, See Liang, Indonesia/Singapore/United Kingdom/Japan/Holland/United States (Nanyang Technological Institute, Singapore). Accounting Educational Systems in Southeast Asia: The Indonesian and Singaporean Experiences [accounting education]. *The International Journal of Accounting.* 1988 Mar; 23(2): 125-136.
Methodology: deductive descriptive.
Discussion and comparison of the historical, political, social, and economic influences on accounting education in Indonesia and Singapore.

248. Foroughi, Tahirih Khodadoust, Iran (University of Nevada at Reno). Accounting in Developing Countries Before and After Social Crisis: The Case of Iran [financial accounting and reporting]. *The International Journal of Accounting.* 1981 Sep; 17(1): 181-223.
Methodology: deductive descriptive.
Comparison of a study of the Iranian accounting system before the 1978-79 revolution with a study of developing countries conducted by the American Association of Accountants. Concludes that accounting education must undergo further development in these countries.

249. Foroughi, Tahirih Khodadoust, Iran (University of Tehran, Iran). Potentials of Inflation Accounting in Iran [financial accounting and reporting]. The Impact of Inflation on Accounting: A Global View. Champaign, IL: Center for International Education and Research in Accounting; 1979 May: 55-86.
Methodology: empirical descriptive.
Survey of Iranian accountants about their attitudes and practices toward inflation accounting.

250. Foroughi, Tahirih Khodadoust; Reed, Barbara, United States/Canada/United Kingdom/New Zealand (American Graduate School of International Management// American Graduate School of International Management). A Survey of the Present and Desirable International Accounting Topics in Accounting Education [accounting education]. *The International Journal of Accounting.* 1987 Sep; 23(1): 70-82.
Methodology: empirical descriptive.
Survey of the differences among educators and executives regarding international accounting topics.

251. Foyo, Diego; Cunningham, Gary M., Mexico (Valores Industriales, S.A. and Subsidiaries/Instituto Technologico de Monterrey//Virginia Polytechnic Institute and State University). Accounting for Inflation in Mexico: A Major Firm's Approach [financial accounting and reporting]. The Impact of Inflation on Accounting: A Global View. Champaign, IL: Center for International Education and Research in Accounting; 1979 May: 103-148.
Methodology: deductive descriptive.
Discussion of the accounting policies of the Mexican company VISA.

252. Francalanza, Charles A., Malta/United Kingdom (University of Malta). Setting Accounting Standards for Malta [financial accounting and reporting]. *The International Journal of Accounting*. 1988 Mar; 23(2): 163-178.
Methodology: deductive descriptive.
Discussion of the regulatory, social, and environmental factors that have helped develop the accounting system in Malta.

253. Fredrikson, E. Bruce, none (Syracuse University). The Valuation of Noncurrent Foreign Currency Monetary Claims [financial accounting and reporting]. *The International Journal of Accounting*. 1973 Sep; 9(1): 149-158.
Methodology: theoretical.
Presentation of arguments for the valuation of noncurrent foreign currency receivables and payables.

254. Freedman, Martin; Stagliano, A. J., European Economic Community (School of Management, Binghamton, New York//St. Joseph University, Philadelphia, Pennsylvania). European Unification, Accounting Harmonization, and Social Disclosures [financial accounting & reporting]. *The International Journal of Accounting*. 1992; 27(2): 112-122.
Methodology: empirical descriptive.
Comparison of the information provided in annual reports in selected firms in European Community countries, with emphasis on seeking inconsistencies on social disclosures made in the European Community.

255. Frishkoff, Paul, none (University of Oregon). Capitalism and the Development of Bookkeeping: A Reconsideration [accounting theory]. *The International Journal of Accounting*. 1970 Mar; 5(2): 29-37.
Methodology: historical.
Analysis of the causes of the adoption of bookkeeping during the late part of the middle ages.

256. Fujita, Yukio, Japan (University of Illinois at Urbana-Champaign). The Evolution of Financial Reporting in Japan [financial accounting and reporting]. *The International Journal of Accounting*. 1966 Sep; 2(1): 49-75.
Methodology: deductive descriptive.
Discussion of the evolution of financial reporting in Japan with special reference to the related legal background.

257. Fujita, Yukio, United Nations (Waseda University and Earlham College). Recent Activities of the United Nations Toward International Harmonization in Accounting and Reporting [accounting history]. Changing International Financial Markets and Their Impact on Accounting. Champaign, IL: Center for

International Education and Research in Accounting, Department of Accountancy; 1992: 93-104.
Methodology: historical.
Historical perspective regarding the United Nations' efforts toward promoting harmonization in international accounting and reporting.

258. Gamble, George O.; Hsu, Kathy; Jackson, Cynthia; Tollerson, Cynthia D., Global (University of Houston). Environmental Disclosure in Annual Reports: An International Perspective [Financial Accounting and Reporting]. *The International Journal of Accounting*. 1996; 31(3):293-331.
Methodology: Empirical statistical.
An investigation of the annual report disclosures of environmental information for 276 companies representing 9 industries and 27 countries for the years 1989 through 1991.

259. Gambling, Trevor E., none (University of Birmingham, England). Toward a General Theory of Accounting [accounting theory]. *The International Journal of Accounting*. 1971 Sep; 7(1): 1-13.
Methodology: theoretical.
Development of a distinct system of non-transferable cultural wealth to help explain the difficulties of cross-cultural income comparison.

260. Gandhi, Natwar M., none (University of Pittsburgh/Program Analysis Division, U.S. General Accounting Office). The Emergence of the Postindustrial Society and the Future of the Accounting Function [social effects of accounting]. *The International Journal of Accounting*. 1976 Mar; 11(2): 33-49.
Methodology: theoretical.
Study of the effects of monetary unidimensional expression on accounting in a post-industrial society. Also discusses the significance of accounting to the societal process of adaptation.

261. Garda, J. A., none (Overseas Division, International Harvester & Company). The Measurement of Financial Data in Evaluating Overseas Managerial Efficiency [managerial accounting]. *The International Journal of Accounting*. 1976 Sep; 12(1): 13-17.
Methodology: deductive descriptive.
Discussion of changes in the way the International Harvester views overseas results. Shows that the company will continue to look at foreign currency results and, excluding exchange effect, measure the key quantitative goals in the performance of foreign managers.

262. Gebhardt, Guenther, Germany/European Economic Community (Institut fur Unternehmungsfuhrung and Unternehmensforschung of the Ruhr-Universitat, Germany). The Usefulness of Different Accounting Disclosure Regulations: A German Experience [financial accounting and reporting]. *The International Journal of Accounting*. 1983 Mar; 18(2): 109-131.
Methodology: empirical statistical.
Survey of German firms indicating that current disclosure is useful in determining failure.

263. Ghartey, Ato, Ghana (University of Ghana at Legon). A New Perspective for Accountancy Education in Ghana [accounting education]. *The International Journal of Accounting*. 1978 Sep; 14(1): 121-132.
Methodology: deductive descriptive.
Study of the current method of educating accountants in Ghana. Concludes that the current methods are inadequate and calls for reforms.

264. Ghartey, J. B., Africa (Suffolk University). Accountability, the Threshold of Political Instability, Underdevelopment, and Misery: The Case of Africa [economics and development]. *The International Journal of Accounting*. 1985 Sep; 21(1): 143-158.
Methodology: deductive descriptive.
Discussion of the instability on the African continent, which holds that accountants could add to the future stability of the region.

265. Ghosh, Dipankar; Crain, Terry L., none (University of Oklahoma, Norman//University of Oklahoma, Norman). A Transfer Pricing Decision Model of Multinationals [managerial accounting]. *The International Journal of Accounting*. 1993; 28(2): 170-181.
Methodology: theoretical.
Introduction of a decision model to calculate the total profit function of a multinational company.

266. Ghosh, Santi Narayan, Bangladesh (University of Dhaka, Bangladesh). A Comparative International Study of the Education of Professional Accountants: A Case Study of Bangladesh [accounting education]. Comparative International Accounting Educational Standards. Champaign, IL: Center for International Education and Research in Accounting; 1990 Apr: 97-108.
Methodology: deductive descriptive.
Discussion of the accounting educational system of Bangledesh. Gives an institutional view of the current system.

267. Gilling, D. M., none (University of New Castle, Australia). Accounting and Social Change [social effects of accounting]. *The International Journal of Accounting*. 1976 Mar; 11(2): 59-71.
Methodology: deductive descriptive.
Discussion of the factors that facilitate accounting change. Concludes that because accounting is a product of its environment, technology and society will continue to change accounting.

268. Givoly, Dan; Lakonishok, Josef, Israel (Tel Aviv University/Carnegie Mellon University//Tel Aviv University/University of North Carolina). Accounting for Construction Companies, Inflation, and Market Efficiency: Analysis of an Israeli Case [financial accounting and reporting]. *The International Journal of Accounting*. 1982 Mar; 17(2): 121-149.
Methodology: deductive descriptive.
Discussion of practices affecting construction accounting in Israel.

269. Glautier, M. W. E., Italy (University of Sheffield). Roman Accounting: The Influence of Socioeconomic Factors on the Development of Accounting Concepts

[social effects of accounting]. *The International Journal of Accounting*. 1973 Mar; 8(2): 59-74.
Methodology: historical.
Study of several approaches to the development of accounting in Roman times.

270. Gniewosz, A., New Zealand (Churchlands College of Advanced Education, Australia). The Equity Method of Accounting for Investments in Common Stock: The New Zealand Experience [financial accounting and reporting]. *The International Journal of Accounting*. 1980 Mar; 15(2): 115-128.
Methodology: empirical descriptive.
Study of the equity method used in New Zealand based on a survey of forty-one corporations. Indicates that this method is not always followed properly, but that those discrepancies occur infrequently when fully consolidated companies are carried by the equity method.

271. Goldschmidt, Yaaqov, Inflationary Countries (Tel Aviv University, Israel). International Accounting Standard 29: Formulation and Clarification on Income Measurement in Hyperinflationary Economies [accounting theory]. *The International Journal of Accounting*. 1992; 27(2): 137-150.
Methodology: theoretical.
Formulation and analysis of a model for income measurement in accordance with International Accounting Standard 29, with special attention given to interest expenses.

272. Golub, Steven J., United States (Deloitte & Touche). A Global Perspective to Financial Reporting [financial accounting and reporting]. *The International Journal of Accounting*. 1982 Sep; 18(1): 37-44.
Methodology: deductive descriptive.
Discussion of the various issues affecting international accounting. Concludes that protecting investors should be the primary concern and that the development of international standards, providing market access and adequate regulation, is the methodology most likely to achieve this protection.

273. Gonedes, Nicholas J., none (University of Texas at Austin). Perception Estimation and Verifiability [accounting theory]. *The International Journal of Accounting*. 1969 Mar; 4(2): 63-73.
Methodology: deductive descriptive.
Study of verifiability and two methods of measuring it.

274. Gorelik, George, Soviet Union/United States (University of British Columbia). Enterprise Profit and Profitability Measurements: Soviet-American Convergence [managerial accounting]. *The International Journal of Accounting*. 1971 Mar; 6(2): 1-14.
Methodology: theoretical.
Study of similarities between ROI measures used in the two countries. Applies this use of similar information needs by top management to overall measures of performance of decentralized organizational subunits.

275. Gorelik, George, Soviet Union (University of British Columbia). Methodologics on the Development and Problems of Soviet Uniform Accounting [accounting theory]. *The International Journal of Accounting*. 1973 Sep; 9(1): 135-148.

Methodology: deductive descriptive.
Study of the historical development of Soviet uniform accounting which considers some of the major problems currently faced by Soviet accounting.

276. Gorelik, George, none (University of British Columbia). On the Nature of Information [information systems]. *The International Journal of Accounting*. 1975 Mar; 10(2): 109-125.
Methodology: theoretical.
Study of the nature of information in the context of systems that concludes that information appears as a composite in complex relationships, which are essential to purposive systemic adaptations.

277. Gorelik, George, United States/Canada/United Kingdom (University of British Columbia, Vancouver, Canada). The Setting of Accounting Standards: Canada, the United Kingdom, and the United States [professional development]. *The International Journal of Accounting*. 1994; 29(2): 95-122.
Methodology: deductive descriptive.
Comparative study questioning the viability of Canada's Accounting Standards Committee, the United States' Financial Accounting Standards Board, and the United Kingdom's Accounting Standards Commitee.

278. Gorski, Janusz, none (University of Lodz, Poland). The Council for Mutual Economic Assistance (CMEA): Its Role in the Economic Integration of Socialist Countries [economics and development]. *The International Journal of Accounting*. 1974 Sep; 10(1): 19-32.
Methodology: deductive descriptive.
Discussion of the CMEA's program to improve the national economics of socialist countries, as well as the industrial and technological base.

279. Gorski, Janusz, Poland (University of Lodz, Poland/Ministry of Science, Higher Education and Technology in Poland). Theoretical and Practical Problems of Accounting for Changing Prices in Poland-Part I [financial accounting and reporting]. The Impact of Inflation on Accounting: A Global View. Champaign, IL: Center for International Education and Research in Accounting; 1979 May: 87-92.
Methodology: deductive descriptive.
Discussion of the history and effects of inflation accounting on the Polish economy.

280. Grady, Paul, none (Price Waterhouse & Company). Professionalism in Accounting [professional development]. *The International Journal of Accounting*. 1967 Sep; 3(1): 87-99.
Methodology: theoretical.
Discussion of the key elements in the advancement of accounting professionalism.

281. Graebner, Norman A., United States/Soviet Union/Europe (University of Virginia). Whither Containment? [public accounting]. *The International Journal of Accounting*. 1969 Sep; 5(1): 17-33.
Methodology: deductive descriptive.

Discussion of the role of containment in bringing the full power of the United States to bear on world politics. Considers how that power could best be used to serve the needs of a divided humanity.

282. Graham, Lynford E., China (Rutgers University). Setting a Research Agenda for Auditing Issues in the People's Republic of China [Auditing]. *The International Journal of Accounting*, 1996; 31(1):19-37.
Methodology: Deductive descriptive.
A discussion of a number of potentially meaningful auditing research issues that arise from the dramatic changes currently taking place in China, identifying organizational, technical practice and economic issues that impact the practice of accounting and auditing.

283. Graham, Roger C.; Wang, Chi-Hsin Coco, Taiwan (Oregon State University//Oregon State University). Taiwan and the International Accounting Standards: A Comparison [financial accounting & reporting]. *The International Journal of Accounting*. 1995; 30(2): 149-167.
Methodology: deductive descriptive.
Comparative analysis of Taiwanese financial accounting standards with International Accounting Standards (IAS).

284. Graves, O. Finley; Berry, Maureen H., East Germany/Europe/Eastern Bloc Countries (University of Mississippi//University of Illinois at Urbana-Champaign). Accounting's Role in Successful Economic Development: Some Normative Evidence from the German Democratic Republic [economics and development]. *The International Journal of Accounting*. 1989; 24(3): 189-220.
Methodology: deductive descriptive.
Description of the development of the East German accounting system and its role in the economic growth.

285. Gray, Dahli, none (University of Notre Dame). SFAS No. 52: Progress or Problem? [accounting theory]. *The International Journal of Accounting*. 1984 Sep; 20(1): 109-119.
Methodology: deductive descriptive.
Discussion of the effects of SFAS No. 52, emphasizing its role in increasing the diversity of financial reports.

286. Gray, H. Peter; Miranti, Paul J., United States/Italy/Japan/Mexico (Rensselaer Polytechnic Institute//Rutgers-The State University of New Jersey at Brunswick). International Financial Statement Translation: The Problem of Real and Monetary Disturbances [financial accounting and reporting]. *The International Journal of Accounting*. 1988 Mar; 23(2): 19-31.
Methodology: theoretical.
Presentation of a translation methodology contending that historical rates should be used for translations involving differences in international inflation rates and current rates should be used when terms of trade are altered.

287. Gray, Jack; Morris, Deigan, United States (University of Minnesota//The European Institute of Business Administration). Comprehensive Controls for Multinational Corporations [managerial accounting]. Managerial Accounting: An

Analysis of Current International Application. Champaign, IL: Center for International Education and Research in Accounting; 1984 Jan: 107-123.
Methodology: theoretical.
Presentation of six elements of a planning and control system, as well as a framework for the communication of the system to managers around the world.

288. Gray, S. J., Central & South America/France/Germany/Netherlands/United Kingdom/European Economic Community/United States/Australia/New Zealand/South Africa/Soviet Union (University of Glasgow, United Kingdom). International Accounting: A Review of Academic Research in the United Kingdom [professional development]. *The International Journal of Accounting*. 1983 Sep; 19(1): 15-42.
Methodology: deductive descriptive.
Discussion of the past and current research in international accounting carried out in the U.K. Concludes that the majority of the research has been comparative.

289. Gray, S. J., United States/Europe/Middle East/Africa/Soviet Union/China/Japan/Asia/Australia/Central & South America (University of Glasgow, United Kingdom). International Accounting Research: The Global Challenge [professional development]. *The International Journal of Accounting*. 1989; 24(4): 291-307.
Methodology: deductive descriptive.
Discussion of the role that international accounting has on accounting research.

290. Gray, S. J., United Kingdom (University of Lancaster, England). Statistical Information and Extensions in European Financial Disclosure [financial accounting and reporting]. *The International Journal of Accounting*. 1978 Mar; 13(2): 27-40.
Methodology: empirical descriptive.
Survey of the comparative disclosure of European countries. Concludes that the European disclosure lacks statistical information.

291. Gray, Sidney J.; Meek, Gary K.; Roberts, Clare B., European Community (University of Warwick, England//Oklahoma State University, Stillwater, Oklahoma//University of Glasgow, Scotland). Financial Deregulation, Stock Exchange Listing Choice, and the Development of a European Capital Market [economics & development]. The New Europe: Recent Political and Economic Implications for Accountants and Accounting. Champaign, IL: Center for International Education and Research in Accounting; 1994: 171-192.
Methodology: capital markets.
A study of the trends of European Community companies of their listing behavior in various stock markets and the reasons for such preference.

292. Gress, Edward J., Egypt/Iraq/Middle East/United States (Canisius College). Public Accounting in Selected Middle East Countries: A Historical Perspective [public accounting]. The Recent Accounting and Economic Developments in the Middle East. Champaign, IL: Center for International Education and Research in Accounting; 1985 May: 167-175.
Methodology: deductive descriptive.

Discussion of the development of the public accounting profession in the Middle East. Places emphasis on the role of the Middle East Society of Associated Accountants.

293. Grove, Hugh D.; Bazley, John D., Unknown (University of Denver, Colorado//University of Denver, Colorado). Disclosure Strategies for Harmonization of International Accounting Standards [financial accounting & reporting]. *The International Journal of Accounting*. 1993; 28(2): 116-128.
Methodology: modeling.
Introduction to different strategies in reducing the number of international accounting alternatives in order to achieve harmonization.

294. Gul, Ferdinand A.; Tsui, Judy, Hong Kong/Australia (The Chinese University of Hong Kong//City Polytechnic of Hong Kong). A Comparative Study of Auditors' Attitudes to Uncertainty Qualifications: An Empirical Test of the Strong Versus Weak Uncertainty Avoidance Hypothesis [auditing]. *The International Journal of Accounting*. 1993; 28(4): 356-364.
Methodology: empirical descriptive.
Empirical study examining the influences of uncertainty avoidance and cultural dimensions on Hong Kong and Australian auditors' perception of the "subject to" audit qualification.

295. Gul, Ferdinand A.; Yap, Teoh Hai, Malaysia (University of Wollongong, Australia//University of Wollongong, Australia). The Effects of Combined Audit and Management Services on Public Perception of Auditor Independence in Developing Countries: The Malaysian Case [auditing]. *The International Journal of Accounting*. 1984 Sep; 20(1): 95-107.
Methodology: empirical descriptive.
Survey of financial statement users in Malaysia to determine their perception of the auditor's independence.

296. Hagigi, Moshe; Hubbard, Howard H., Saudi Arabia/Egypt/Pakistan (Boston University//Fluor Corporation). Forging National Accounting Practices: The Saudi Arabian Experience in Taxation [taxation]. *The International Journal of Accounting*. 1988 Mar; 23(2): 151-162.
Methodology: deductive descriptive.
Discussion of the Saudi Arabian tax accounting system which compares this system with those used in other Middle Eastern countries.

297. Hagigi, Moshe; McAuliffe, Terry Lynn, United States (Boston University//Rice University). Stock Price Reaction to 'Off-Balance-Sheet' Information: The Case of International Finance Subsidiaries [financial accounting and reporting]. *The International Journal of Accounting*. 1989; 24(1): 21-28.
Methodology: capital markets.
Study of "off balance sheet" activities of forty-six international finance companies. Finds that significant market reactions did not occur immediately.

298. Hagigi, Moshe; Sponza, Andrea, Italy/United States/European Economic Community/Central & South America (Boston University//Boston University visiting from University of Venice). Financial Statements Ananlysis of Italian Companies: Accounting Practices, Environmental Factors, and International Corporate

Performance Comparisons [financial accounting and reporting]. *The International Journal of Accounting*. 1990; 25(4): 234-251.
Methodology: empirical descriptive.
Study of the financial statements of thirty-four Italian companies. Discusses the factors affecting Italian accounting practices and the effect they had on the financial ratios.

299. Hakansson, Nils H., none (Yale University). Normative Accounting Theory and the Theory of Decision [accounting theory]. *The International Journal of Accounting*. 1969 Mar; 4(2): 33-47.
Methodology: theoretical.
Discussion of an approach to the construction of normative accounting theory with respect to both methodology and substance.

300. Hall, L. LeVan, developing countries (Communities Economic Development Fund, Canada). The Multinational Corporation: Its Impact on Developing Countries [economics and development]. The Multinational Corporation: Accounting and Social Implications. Champaign, IL: Center for International Education and Research in Accounting; 1977 Jan: 93-106.
Methodology: deductive descriptive.
Explanation of the effects of the multinational corporation on developing countries. Calls for controls to protect these countries.

301. Hall, Thomas W.; Snavely, H. Jim, United States/global (University of Texas at Arlington//University of Texas at Arlington). Translated Financial Statements Can Be Meaningful [financial accounting and reporting]. *The International Journal of Accounting*. 1984 Sep; 20(1): 153-170.
Methodology: theoretical.
Presentation of a method of translation, as compared with methods now used.

302. Haller, Axel, Germany (University of Augsburg, Germany). The Relationship of Financial and Tax Accounting in Germany: A Major Reason for Accounting Disharmony [financial accounting & reporting]. *The International Journal of Accounting*. 1992; 27(4): 310-323.
Methodology: deductive descriptive.
Detailed study of the influence and relationship of tax accounting on financial accounting in Germany and other countries in the European Economic Community.

303. Hamer, John G.; Kistler, Linda H., United States (University of Lowell//University of Lowell). The Statement of Cash Flow--An Analysis of Translation and Remeasurement Techniques for Foreign Subsidiaries [financial accounting and reporting]. *The International Journal of Accounting*. 1990; 25(1): 29-41.
Methodology: deductive descriptive.
Discussion of the translation and remeasurement methods necessary when the statement of cash flows is prepared for foreign firms.

304. Hamer, John G.; Kistler, Linda H., United States (University of Lowell//University of Lowell). The Impact of Foreign Currency Translations on the New FASB Statement of Cash Flows [financial accounting and reporting]. *The International Journal of Accounting*. 1987 Sep; 23(1): 129-144.
Methodology: deductive descriptive.

Discussion and presentation of the statement of cash flows.

305. Hammer, Richard, United States (Price Waterhouse & Company). Financial Planning to Avoid Tax Problems [taxation]. *The International Journal of Accounting*. 1972 Mar; 7(2): 23-34.
Methodology: deductive descriptive.
Discussion of (1) organizational methods needed to operate abroad, (2) tax-saving opportunities available to corporation taxpayers through the WHTC and possessions corporation provisions, (3) tax problems arising from Section 502 of the Internal Revenue Code, and (4) U.S. foreign tax credit rules.

306. Hanna, John R., none (McMaster University, Canada). An Application and Evaluation of Selected Alternative Accounting Income Models [accounting theory]. *The International Journal of Accounting*. 1972 Sep; 8(1): 135-167.
Methodology: empirical descriptive.
Application of selected models to determine financial position and income.

307. Hardman, D. J., Solomon Islands (The New South Wales Institute of Technology, Australia). Accounting Development in the Solomon Islands [professional development]. *The International Journal of Accounting*. 1984 Sep; 20(1): 141-152.
Methodology: deductive descriptive.
Discussion of the development of the accounting profession in the Solomon Islands. Holds that modernizing and building a more indigenous accounting profession is necessary for the economic development of the Solomon Islands.

308. Hartmann, Bernhard, none (Technical University of Berlin). The Effect of EDP Systems on the Internal Organization of the Firm [managerial accounting]. *The International Journal of Accounting*. 1966 Mar; 1(2): 101-117.
Methodology: empirical descriptive.
Discussion of the changes in the traditional organizational structure of the firm caused by EDP Systems.

309. Hartnett, Neil A., Australia/United Kingdom/United States (University of Newcastle, New South Wales, Australia). Corporate Financial Forecast Accuracy: An Australian Study [financial accounting & reporting].*The International Journal of Accounting*. 1993; 28(3): 248-258.
Methodology: capital markets.
Study of corporate financial forecast accuracy behavior as denoted in revenue forecasts presented in prospectus and related published data of companies listed on the Australian Stock Exchange, with particular emphasis on revenue and net operating profit.

310. Hassan, Naim A., United Kingdom/United States (University of Birmingham, England). Accounting Education and Training in the United Kingdom: The Search for a New Strategy [accounting education]. Comparative International Accounting Educational Standards. Champaign, IL: Center for International Education and Research in Accounting; 1990 Apr: 109-131.
Methodology: deductive descriptive.
Discussion of current practices in accounting education in the U.K. Compares the U.S.' programs with those used in the U.K. and calls for more research funding.

311. Hassan, Naim A., United Kingdom/West Germany/France (University of Birmingham, England). Different Business Accounting Policies as a Function of Macroaccounting Influences: A Comparative Study in Selected European Countries [financial accounting and reporting]. The Recent Accounting and Economic Developments in Western Europe. Champaign, IL: Center for International Education and Research in Accounting; 1985 May: 59-90.
Methodology: empirical descriptive.
Study of the macroaccounting models used in several European countries.

312. Hassan, Naim A., United Kingdom/United States/Arab Countries/Kuwait (University of Birmingham, England). International Accounting Standards: Desirable as a Short-term Solution in the Case of the Arab Gulf States? [financial accounting and reporting]. The Recent Accounting and Economic Developments in the Middle East. Champaign, IL: Center for International Education and Research in Accounting; 1985 May: 69-100.
Methodology: empirical descriptive.
Survey of the annual reports of Arab Gulf States corporations, which reveals that the reports are the primary source of information of users in that area.

313. Hausman, Donald I., United States (Deloitte & Touche). The Foreign Direct Investment Program [economics and development]. *The International Journal of Accounting*. 1968 Sep; 4(1): 67-80.
Methodology: deductive descriptive.
A study of the Foreign Direct Investment Program, which emphasizes its limitations for overseas business activities.

314. Hauworth, II William P., Argentina/Brazil/Mexico/Chile/United Kingdom/South Africa/Australia/Canada/Germany/Netherlands/New Zealand (Arthur Andersen & Company). A Comparison of Various International Proposals on Inflation Accounting: A Practitioner's View [financial accounting and reporting]. *The International Journal of Accounting*. 1980 Sep; 16(1): 63-82.
Methodology: deductive descriptive.
Study of the methodology used by each company for inflation accounting. Contends that most countries have just started to account for inflation and that a general lack of understanding exists as to the usefulness of this information. Concludes that in time inflation accounting will become more important to financial statement users.

315. Hauworth, II William P., none (Arthur Andersen & Company). Problems in the Development of Worldwide Accounting Standards [financial accounting and reporting]. *The International Journal of Accounting*. 1973 Sep; 9(1): 23-34.
Methodology: deductive descriptive.
Outline of several problems which impede the development of worldwide accounting standards.

316. Hayes, Donald J., Canada/United States/Europe (Arthur Young & Company). The International Accounting Standards Committee--Recent Developments and Current Problems [financial accounting and reporting]. *The International Journal of Accounting*. 1980 Sep; 16(1): 1-10.
Methodology: deductive descriptive.

Discussion of three problems facing the IASC: the lack of recognition, identification of objectives, and intervention by international bodies. Holds that the IASC is addressing these problems, but that it will need continued professional support.

317. Heaston, Patrick H., United States/global (Drake University). Qualification Requirements for Public Accounting in Selected Foreign Countries: A Comparison with the United States [public accounting]. *The International Journal of Accounting*. 1984 Sep; 20(1): 71-94.
Methodology: empirical descriptive.
Comparison by country of the professional requirements necessary to become a professional public accountant.

318. Heck, Jean Louis; Jensen, Robert E.; Cooley, Philip L., United States (Villanova University//Trinity University//Trinity University). An Analysis of Contributors to Accounting Journals. Part II: The Individual Academic Accounting Journals [professional development]. *The International Journal of Accounting*. 1991; 26(1): 1-17.
Methodology: empirical statistical.
Disaggregated analysis of contributors to 24 accounting journals. Finds that top contributors tend to spread their works among various journals.

319. Heck, Jean Louis; Jensen, Robert E.; Cooley Philip L., United States (Villanova University//Trinity University//Trinity University). An Analysis of Contributors to Accounting Journals. Part I: The Aggregate Performances [professional development]. *The International Journal of Accounting*. 1990; 25(3): 202-217.
Methodology: empirical statistical.
Study of twenty-four international accounting journals through 1988. Finds an increase in co-authorship and number of articles written.

320. Heinen, Edmund, none (University of Munich). Goals in Managerial Economics [managerial accounting]. *The International Journal of Accounting*. 1976 Mar; 11(2): 1-10.
Methodology: theoretical.
Presentation of the control and economic benefit to be obtained through use of management by objectives.

321. Heinen, Edmund, none (University of Munich). Supplemented Multi-Purpose Accounting [accounting theory]. *The International Journal of Accounting*. 1978 Sep; 14(1): 1-15.
Methodology: theoretical.
Presentations of the different methods of multipurpose accounting which holds that the multi-purpose accounting theory should be regarded not only as an accounting theory, but also as an internal communication theory.

322. Heintz, James A.; Han, Jin-Soo, Korea/United States (Indiana University//Dongguk University, Korea). A Study of Audit Judgments of Korean CPAs [auditing]. *The International Journal of Accounting*. 1985 Sep; 21(1): 21-37.
Methodology: theoretical.
Comparison of internal control judgements with those observed in earlier research, which finds that present judgments are consistent with ones studied previously.

323. Hendriksen, Eldon S., United Kingdom (Washington State University). Disclosures—Insights Into Requirements in the United Kingdom [accounting theory]. *The International Journal of Accounting*. 1969 Mar; 4(2): 21-32.
Methodology: deductive descriptive.
Review of the 1967 Companies Act in Great Britain and its relevance to current proposals and discussions in the U.S.

324. Hermanson, Dana, United States (Kennesaw State College, Marietta, Georgia). Multinational External Audit Planning [auditing]. *The International Journal of Accounting*. 1993; 28(3): 206-214.
Methodology: empirical descriptive.
Examination of how multinational companies are audited by Big Six companies. Emphasis is given to numerous risk factors involving multinational audit planning.

325. Hermanson, Heather M.; Hermanson, Dana R.; Carcello, Joseph V., United States (Kennesaw State University/University of Tennessee). An Analysis of Multinational "Audit Failures" [auditing]. *The International Journal of Accounting*, 1996; 31(3): 281-291.
Methodology: Empirical descriptive.
An examination of the public clients of the Big Eight (Six) that declared bankruptcy from 1/1/88 through 12/31/92 and that had in excess of $40 million of revenue. Indicates that multinational factors are not associated with a large number of audit failures during the sample period.

326. Higson, Andrew; Blake, John, United Kingdom/European Community (Loughborough University Business School, Leicestershire, United Kingdom//University of Central Lanashire, Preston, United Kingdom). The True and Fair View Concept-A Formula for International Disharmony: Some Empirical Evidence [financial accounting & reporting]. *The International Journal of Accounting*. 1993; 28(2): 104-115.
Methodology: deductive descriptive.
Study of the increasing importance of the "true and fair view" concept in international accounting.

327. Ho, Joanna L.; Chang, Chengyee Janie, Taiwan/United States (University of California, Irvine//University of California, Irvine). Does National Culture or Professional Knowledge Affect Auditors' Probabilistic Conjunction Judgments? A Study of the United States Versus Taiwan [auditing]. *The International Journal of Accounting*. 1994; 29(3): 189-205.
Methodology: empirical statistical.
Comparative study of the influence of culture and job experience on the diagnostic probability judgments of Taiwanese and American auditors.

328. Ho, Simon S. M., United Kingdom (The Chinese University of Hong Kong). The Impact of Using Risk Analysis in Capital Budgeting on Earnings Performance: The UK Experience [managerial accounting]. *The International Journal of Accounting*. 1992; 27(1): 1-14.
Methodology: empirical statistical.
Examination of the effectiveness of probabilistic risk analysis in improving a firm's çapital budgeting program over simple risk adjustment analysis.

329. Holzer, H. Peter; Tremblay. Doria, Thailand/Tunisia (University of Illinois at Urbana-Champaign//Laval University in Quebec, Canada). Accounting and Economic Development: The Cases of Thailand and Tunisia [economics and development]. *The International Journal of Accounting*. 1973 Sep; 9(1): 67-80.
Methodology: deductive descriptive.
Outline of the needs for accounting in a developing country. Provides an analysis of the status of accounting in Thailand and Tunisia illustrates the extent to which the needs of accounting are being met in specific developing nations.
330. Hooper, Paul; Liao, Li-Min, United States (University of Delaware//Contel Service Corporation). Foreign Currency Accounting: A Review and Critique of Major Empirical Studies [financial accounting and reporting]. *The International Journal of Accounting*. 1990; 25(2): 113-126.
Methodology: theoretical.
Presentation of the various research methodologies and factors affecting foreign currency accounting.
331. Hooper, Paul; Page, John; Smith, Karen. United States/United Kingdom/Canada (University of Delaware//Tulane University//Price Waterhouse & Company). Accountants' Legal Liability: An International Comparison [public accounting]. *The International Journal of Accounting*. 1985 Mar; 20(2): 65-80.
Methodology: deductive descriptive.
Comparison of the accountants' legal liability in the U.S., the U.K., and Canada.
332. Hopwood, Anthony G.; Johnson, H. Thomas, none (London School of Economics and Political Science//Pacific Lutheran University). Accounting History's Claim to Legitimacy [accounting history]. *The International Journal of Accounting*. 1986 Mar; 21(2): 37-46.
Methodology: theoretical.
Presentation of Roger Cister's arguments regarding the legitimacy of accounting history.
333. Hoque, Zahirul, Bangladesh (Victoria University of Wellington, Wellington, New Zealand). Budgetary Control Systems in Public Sector Enterprises in a Developing Country: Some Evidence from Bangladesh [managerial accounting]. *The International Journal of Accounting*. 1995; 30(4): 344-355.
Methodology: empirical statistical.
Study to determine how managers perceive and utilize organizational tools such as budgeting systems in the jute mills of Bangladesh.
334. Hoshower, Leon B.; Mandel, Linda Ann. United States (Pennsylvania State University//Cornell University). Transfer Pricing Policies of Diversified U. S.-Based Multinationals [managerial accounting]. *The International Journal of Accounting*. 1986 Sep; 22(1): 51-59.
Methodology: empirical descriptive.
Survey of U.S.-based multinational corporations regarding their transfer pricing policies. Finds that policies are decentralized.
335. Hossain, Mahmud; Tan, Lin Mei; Adams, Mike, Malaysia (Massey University, Palmerston North, New Zealand//Massey University, Palmerston North, New Zealand//Massey University, Palmerston North, New Zealand). Voluntary Dis-

closure in an Emerging Capital Market: Some Empirical Evidence from Companies Listed on the Kuala Lumpur Stock Exchange [economics & development]. *The International Journal of Accounting*. 1994; 29(4): 334-351.
Methodology: capital markets.
Examination of characteristics which influence the level of voluntary disclosure in annual reports of companies listed on the Kuala Lumpur Stock Exchange.

336. Hosseini, Ahmad; Aggarwal, Raj, United States (University of Detroit//University of Toledo). Evaluating Foreign Affiliates: The Impact of Alternative Foreign Currency Translation Methods [managerial accounting]. *The International Journal of Accounting*. 1983 Sep; 19(1): 65-87.
Methodology: modeling.
Study of ROI as to its level of distortion using different translation methods. Contends that ROI was sensitive not only to the translation method used, but also to structure, dividend policy, and exchange rate fluctuations.

337. Hosseini, Ahmad; Rezaee, Zabihollah, United States/global (University of Detroit// University of Detroit). Impact of SFAS No. 52 on Performance Measures of Multinationals [financial accounting and reporting]. *The International Journal of Accounting*. 1990; 25(1): 43-52.
Methodology: empirical descriptive.
Survey of 109 multinational companies regarding the effects of SFAS No. 52.

338. Houghton, Keith A.; Bell, Richard, Australia (Western Australian Institute of Technology//University of Melbourne, Australia). Evaluations of Accounting and Finance Journals: The Australian View [professional development]. *The International Journal of Accounting*. 1984 Sep; 20(1): 179-187.
Methodology: empirical descriptive.
Survey of Australian educators regarding the quality of a number of accounting journals. Finds that factors such as "reading frequency," "content familarity," and whether or not the journal had published the respondents' work affected the evaluation.

339. Hove, Mfandaidza R., developing countries/Developed Countries/United Kingdom (University of Zimbabwe). Accounting Practices in Developing Countries: Colonialism's Legacy of Inappropriate Technologies [economics and development]. *The International Journal of Accounting*. 1986 Sep; 22(1): 81-99.
Methodology: deductive descriptive.
Discussion of the influences that investing countries have had on the less developed countries.

340. Hove, Mfandaidza R., developing countries (University of Zimbabwe). The Inappropriateness of International Accounting Standards in Less Developed Countries: The Case of International Accounting Standard Number 24—Related Party Disclosures—Concerning Transfer Prices [financial accounting and reporting]. *The International Journal of Accounting*. 1989; 24(2): 165-179.
Methodology: theoretical.
Discussion of the transfer pricing methodology and disclosure used by transnational corporations in less developed countries.

341. Hoyt, Ronald E., United States/Soviet Union (University of Arkansas). Profit Measurement in East-West Trade and Industrial Cooperation: Concepts, Criteria,

and Special Problems [financial accounting and reporting]. *The International Journal of Accounting*. 1978 Mar; 13(2): 119-144.
Methodology: theoretical.
Presentation of the different models and practices involved in East-West trade. States that generally accepted accounting principles do not present these translations properly and concludes that a change is needed.

342. Hoyt, Ronald E.; Maples, Lawrence D., Soviet Union/China/United States/Canada (University of Laval, Canada//University of Louisville). Accounting for Joint Ventures with the Soviet Bloc and China [financial accounting and reporting]. *The International Journal of Accounting*. 1980 Sep; 16(1): 105-124.
Methodology: deductive descriptive.
Discussion of the consolidation practices necessary when a firm is involved in a joint venture with an Eastern bloc country. Concludes with a discussion of the implications of U.S. tax laws on East-West trade.

343. Hsu, Tsun Tsien, China (Wuhan University, The People's Republic of China). Recent Business and Accounting Developments in China [financial accounting and reporting]. *The International Journal of Accounting*. 1981 Sep; 17(1): 157-160.
Methodology: deductive descriptive.
Discussion of the various factors necessary for the modernization of China.

344. Hudack, Lawrence R.; Orsini, Larry L., Japan (St. Bonaventure University, New York//St. Bonaventure University, New York). A Methodology of Caution to Users of Japanese Financial Reports: A Demonstration of an Enlarged Exogenist Approach [social effects]. *The International Journal of Accounting*. 1992; 27(1): 15-26.
Methodology: deductive descriptive.
Examination of how the socio-economic environment undermines the fundamental objectives of Japanese financial reporting.

345. Hunziker, A. E., United States/United Kingdom (Caterpillar Tractor Company). Commentary to Discussion on International Accounting Challenges [financial accounting and reporting]. *The International Journal of Accounting*. 1968 Sep; 4(1): 99-100.
Methodology: theoretical.
Comparison between the foreign growth of Caterpillar and of Dow Chemical Company.

346. Hussein, Mohamed Elmutassim, United States/Central & South America/France/United Kingdom (University of Connecticut). Translation Problems of International Accounting Standards [financial accounting and reporting]. *The International Journal of Accounting*. 1981 Sep; 17(1): 147-155.
Methodology: theoretical.
Discussion of the language translation methods used by the International Accounting Standards Committee.

347. Hussein, Mohamed Elmutassim, United States/Netherlands (University of Connecticut). A Comparative Study of Cultural Influences on Financial Reporting

in the U.S. and the Netherlands [financial accounting and reporting]. *The International Journal of Accounting*, 1996; 31(1): 95-120.
Methodology: empirical statistical.
An argument that financial reporting and its regulation have multiple purposes reflecting each country's social, cultural, and political environment. Presents a comparison of financial reporting in US and Netherlands within their respective cultures.

348. Iino, Toshio, Japan (Hitotsubashi University, Japan). Accounting Principles and Contemporary Legal Action in Japan [financial accounting and reporting]. *The International Journal of Accounting*. 1967 Mar; 2(2): 65-87.
Methodology: deductive descriptive.
Discussion of the philosophy of the accounting provisions of the Japanese Commercial Code applicable to stock corporations and of the regulation for corporate balance sheets and income statements of Japan.

349. Ijiri, Yuji, Global (Carnegie Mellon University). Global Financial Reporting Using a Composite Currency: An Aggregation Theory Perspective [accounting theory]. *The International Journal of Accounting*. 1995; 30(2): 95-106.
Methodology: modeling.
Introduction to a model for determining composite currency for multinational corporation with semi-permanent foreign investments.

350. Ings, William C., United States (Arthur Young & Company). The Function of the Managerial Accountant in Planning and Control [managerial accounting]. Managerial Accounting: An Analysis of Current International Application. Champaign, IL: Center for International Education and Research in Accounting; 1984 Jan: 125-137.
Methodology: deductive descriptive.
Discussion of the accountant's role in planning and control.

351. Ivancevich, Daniel Michael, United Kingdom/United States (University of Nevada, Las Vegas). Acquisitions and Goodwill: The United Kingdom and the United States [economics & development]. *The International Journal of Accounting*. 1993; 28(2): 156-169.
Methodology: empirical statistical.
Empirical study seeking to find evidence of differences in recording purchased goodwill in companies taken over by American and British firms.

352. Jacob, Hans-Joachim, Germany (BDO Germany). Ethical Concerns and Regulations of the German Certified Public Accountant (Wirtschaftsprufer) [professional development]. Ethical Considerations in Contemporary International Accounting Practice. Champaign, IL: Center for International Education and Research in Accounting, Department of Accountancy; 1992: 19-30.
Methodology: deductive descriptive.
Descriptive summary of the regulations and the consequential ethical issues involving the German certified public accountant.

353. Jacobi, Michael H., Netherlands/Germany/Sweden/United States (a Swiss multinational chemical company). The Unit of Account in Consolidated Financial

Statements of Multinational Enterprises [financial accounting and reporting]. *The International Journal of Accounting*. 1980 Mar; 15(2): 17-34.
Methodology: deductive descriptive.
Presentation of the use of special drawing rights as a uniform method of restating foreign denominated financial statements. Concludes that because people lack an understanding of special drawing rights, this method will provide statements that are at first hard to understand.

354. Jagerhorn, Reginald, Finland/United States (Swedish Graduate School of Economics and Business Administration of Helsinki). Some Aspects of Finnish Financial Reporting Practices [financial accounting and reporting]. *The International Journal of Accounting*. 1970 Sep; 6(1): 15-23.
Methodology: deductive descriptive.
General comparison of the annual reporting of Finnish firms and U.S. firms, accompanied by a discussion of legislative reform.

355. Jagetia, Lal C.; Nwadike, Evaristus C., Nigeria/United States/United Kingdom (Cleveland State University//associated with the Nigerian government). Accounting Systems in Developing Nations: The Nigerian Experience [economics and development]. *The International Journal of Accounting*. 1983 Mar; 18(2): 69-81.
Methodology: deductive descriptive.
Discussion of the considerations involved in developing an accounting system for developing countries. Concludes that accounting systems should be developed on a subjective basis.

356. Jaggi, Bikki L., Developing Countries (State University of New York at Binghamton). Accounting Studies of Developing Countries: An Assessment [economics and development]. *The International Journal of Accounting*. 1973 Sep; 9(1): 159-170.
Methodology: deductive descriptive.
Assessment of the progress of international accounting. Examines the potential for further research in this field.

357. Jaggi, Bikki L., Germany (State University of New York at Binghamton). An Analysis of Corporate Social Reporting in Germany [social effects of accounting]. *The International Journal of Accounting*. 1980 Mar; 15(2): 35-45.
Methodology: deductive descriptive.
Discussion of social reporting in Germany. Concludes that German firms have made progress in social accounting and that other countries could follow their example.

358. Jaggi, Bikki L., none (State University of New York at Binghamton). The Impact of the Cultural Environment on Financial Disclosures [social effects of accounting]. *The International Journal of Accounting*. 1975 Mar; 10(2): 75-84.
Methodology: theoretical.
Study of the impact of the cultural environment and individual value orientations on information disclosures. Offers a hypothesis as to the reliability of financial disclosures.

359. Jaggi, Bikki L., India (State University of New York at Binghamton). A Review of the Accounting Profession in India [professional development]. *The International Journal of Accounting*. 1970 Sep; 6(1): 35-51.
Methodology: deductive descriptive.
A brief historical perspective, followed by a discussion of some issues faced by the accounting profession in India and of the present status of the profession.

360. Jaggi, Bikki; Zhao, Ronald, Hong Kong (Rutgers University/City University of Hong Kong). Environmental Perfomance and Reporting Perceptions of Managers and Accounting Professionals in Hong Kong [financial accounting and reporting]. *The International Journal of Accounting*, 1996; 31(3): 333-346.
Methodology: Empirical statistical.
An evaluation of Hong Kong managers' perceptions of envirionmental disclosures by their firms. It examines professional accountants' perceptions of environmental disclosures and finds that there was a gap between perceived importance of environmental performance and actual environmetnal disclosures.

361. Jaruga, Alicja A., Poland (University of Lodz, Poland). Problems of Uniform Accounting Principles in Poland [financial accounting and reporting]. *The International Journal of Accounting*. 1972 Sep; 8(1): 25-41.
Methodology: deductive descriptive.
Analysis of current uniform accounting principles, with emphasis placed on existing problems and emerging needs.

362. Jaruga, Alicja A., Poland (University of Lodz, Poland). Recent Developments in Polish Accounting: An International Transaction Emphasis [financial accounting and reporting]. *The International Journal of Accounting*. 1974 Sep; 10(1): 1-18.
Methodology: deductive descriptive.
Study of problems associated with the increase in Poland's foreign trade, resulting from the development of the Polish economy and accounting system.

363. Jaruga, Alicja A., Poland (University of Lodz, Poland). Recent Developments of the Auditing Profession in Poland [auditing]. *The International Journal of Accounting*. 1976 Sep; 12(1): 101-109.
Methodology: deductive descriptive.
Analysis of the development of the auditing profession in Poland and the role the PAA has played in this general development.

364. Jaruga, Alicja A., Poland (University of Lodz, Poland). Theoretical and Practical Problems of Accounting for Changing Prices in Poland-Part II [financial accounting and reporting]. The Impact of Inflation on Accounting: A Global View. Champaign, IL: Center for International Education and Research in Accounting; 1979 May: 93-102.
Methodology: theoretical.
Theoretical description of the accounting practices in Socialist Poland.

365. Jeffrey, Cynthia; Weatherholt, Nancy; Lo, Steven, Taiwan (Iowa State University/ The University of Missouri-Kansas City/Grant Thornton, LLP). Ethical Development, Professional Committement and Rule Observance Attitudes: A Study

of Auditors in Taiwan [professional development]. *The International Journal of Accounting*, 1996; 31(3): 365-379.
Methodology: Empirical statistical.
An examination of ethical reasoning and professional commitment in Taiwan by focusing on the relation between professional commitment, ethical development of accountants, and accountants' attitudes towards following rules.

366. Jegers, Marc; Buijink, Willem, European Economic Community/Belgium (University of Antwerp, Belgium//University of Limburg, the Netherlands). The Reliability of Financial Accounting Data Bases: Some Belgian Evidence [financial accounting and reporting]. *The International Journal of Accounting*. 1987 Sep; 23(1): 1-21.
Methodology: empirical statistical.
Study of the reliability of the financial statements of Belgian firms available on data base. Finds numerous discrepencies among these statements.

367. Jensen, Daniel L., none (Purdue University). Professional Responses to Reporting the Impact of Inflation: A Discussion-Part I [financial accounting and reporting]. The Impact of Inflation on Accounting: A Global View. Champaign, IL: Center for International Education and Research in Accounting; 1979 May: 179-182.
Methodology: deductive descriptive.
Discussion of the issues raised by Alain M. Oberrotman in his paper.

368. Jensen, Daniel L., United States (Purdue University). The Role of Interest in Revolving Capital Plans for Cooperative Enterprise [economics and development]. *The International Journal of Accounting*. 1974 Mar; 9(2): 105-109.
Methodology: theoretical.
Discussion of the role of interest in revolving capital plans, which argues that the failure to pay interest may lead to instability in the cooperative organization and aggravate capital accumulation problems. Recommends that interest be imputed to member-capital accounts by credit based on contributed capital and offsetting charges based on patronage.

369. Jermakowicz, Eva; Rinke, Dolores F., Hungary/Poland/Czech Republic/Slovak Federal Republic (University of Southern Indiana//Purdue University-Calumet). A Comparative Analysis of New Accounting Standards in Hungary, Poland, and the Czech and Slovak Federal Republics with International Accounting Standards and the European Community Directives [miscellaneous]. The New Europe: Recent Political and Economic Implications for Accountants and Accounting. Champaign, IL: Center for International Education and Research in Accounting; 1994: 253-274.
Methodology: deductive descriptive.
Descriptive review of new accounting regulations enacted in various former Soviet bloc countries and an examination of these regulations to determine the degree of harmony with the standards of IASC and the European Community.

370. Johansson, Sven-Erik, Sweden (Stockholm School of Economics). An Appraisal of the Swedish System of Investment Reserves [financial accounting and reporting]. *The International Journal of Accounting*. 1965 Sep; 1(1): 85-92.

Methodology: deductive descriptive.
Brief description of the basic structure and function of the Swedish system of investment reserves and a tentative evaluation of the current system.

371. Johnson, Eldon L., none (University of Illinois at Urbana-Champaign). International University Reponsibilities [accounting education]. *The International Journal of Accounting*. 1968 Sep; 4(1): 121-128.
Methodology: theoretical.
Discussion of the inadequacies in international policy education at the university level.

372. Johnson, Eldon L., United States/Soviet Union/China/Africa (University of Illinois at Urbana-Champaign). Universities and Our Other Citizenship [accounting education]. The Recent Accounting and Economic Developments in Western Europe. Champaign, IL: Center for International Education and Research in Accounting; 1985 May: 115-120.
Methodology: deductive descriptive.
Discussion of the role of the university on the international level.

373. Johnson, Gene H.; Byington, J. Ralph, United States/Spain (Louisiana Tech University, Ruston, Louisiana//Louisiana Tech University, Ruston, Louisiana). Accounting Competence, Machiavellianism, and Budget-Related Behavior: A Comparative Study of U.S. and Spanish Managers [managerial accounting]. *The International Journal of Accounting*. 1993; 28(4): 335-346.
Methodology: empirical descriptive.
Comparative study to determine how American and Spanish managers differ in budget-related attitudes and behavior.

374. Johnson, Van E.; Khurana, Inder, United States (Northern Illinois University//University of Missouri-Columbia). Voluntary Disclosures and the SEC: Rule 144a Private Debt Placements [professional development]. *The International Journal of Accounting*. 1994; 29(2): 136-145.
Methodology: empirical descriptive.
Study providing preliminary evidence on the extent of voluntary disclosures based upon Securities and Exchange Commission's Rule 144a.

375. Jones, Gardner M.; Kinfu, Johannes, Ethiopia/developing countries (Michigan State University//Haile Selassie I University, Ethiopia). The Birth of an Accounting Profession: The Ethiopian Experience [public accounting]. *The International Journal of Accounting*. 1971 Sep; 7(1): 89-98.
Methodology: deductive descriptive.
Presentation of the historical circumstances leading in the development of accounting in Ethiopia. Emphasizes the changes that are needed in institutions, laws, and customs so as to create a full-fledged accounting profession in that country.

376. Kafer, Karl, Europe/United States/Germany/Austria/France/Switzerland (University of Zurich). European National Uniform Charts of Accounts [accounting theory]. *The International Journal of Accounting*. 1965 Sep; 1(1): 67-83.
Methodology: theoretical.
Brief history of the national charts of accounts, accompanied by a discussion of the pros and cons of such a system and the design of a uniform chart.

377. Kafer, Karl; Zimmerman, V. K., United States/Europe (University of Zurich//University of Illinois at Urbana-Champaign). Methodologies on the Evolution of the Statement of Sources and Applications of Funds [accounting theory]. *The International Journal of Accounting*. 1967 Mar; 2(2): 89-121.
Methodology: deductive descriptive.
Application of A. C. Littleton's theories to the history of the modern funds statements from its approximate origin in 1900 to the present.

378. Kantor, Jeffrey; Grosh, Michael, Canada (University of Windsor//Massey University, New Zealand). Deferred Income Tax Accounting: Opinions of Canadian Accountants [financial accounting and reporting]. *The International Journal of Accounting*. 1987 Sep; 23(1): 83-93.
Methodology: empirical descriptive.
Survey of Canadian chartered accountants regarding deferred income tax accounting.

379. Kaocharern, Sukri, Thailand (Securities Exchange of Thailand (SET)). The Development of the Securities Exchange in Thailand [financial accounting and reporting]. *The International Journal of Accounting*. 1976 Sep; 12(1): 19-26.
Methodology: deductive descriptive.
Summary of the development of the securities exchange in Thailand which contends that Thailand's goal is to force the growth of a capital market.

380. Karnes, Allan; Sterner, Julie; Welker, Robert; Wu, Frederick, Taiwan/United States (Southern Illinois University//Southern Illinois University//Southern Illinois University//Southern Illinois University). A Bicultural Study of Independent Auditors' Perceptions of Unethical Business Practices [social effects of accounting]. *The International Journal of Accounting*. 1989; 24(1): 29-41.
Methodology: empirical statistical.
Study comparing the social, cultural, and ethical concerns of public accountants in the U.S. and Taiwan.

381. Karnes, Allen; Sterner, Julie, United States (Southern Illinois University-Carbondale//Southern Illinois University-Carbondale). An Empirical Investigation of Morality Judgments by CPAs and Non-CPAs: Implications for Peer Reviews [professional development]. Ethical Considerations in Contemporary International Accounting Practice. Champaign, IL: Center for International Education and Research in Accounting, Department of Accountancy; 1992: 31-48.
Methodology: empirical statistical.
Comparative examination of a hypothetical self-monitored review program as opposed to the current peer review system in place.

382. Katano, Ichiro, none (Hitotsubashi University, Japan). Structure of Accounting for Changing Money Values [accounting theory]. *The International Journal of Accounting*. 1967 Mar; 2(2): 21-36.
Methodology: deductive descriptive.
Study of the structure of accounting for changing money value.

383. Katsuyama, Susumu, Japan (Nihon University, Japan). Recent Problems of the Financial Accounting System in Japan [financial accounting and reporting]. *The International Journal of Accounting*. 1976 Sep; 12(1): 121-131.

Methodology: theoretical.

Discussion of the problems of financial accounting systems in Japan, with special reference to international accounting.

384. Kazenski, Paul M.; Wong, Elaine Yin Ling, People's Republic of China (University of Hawaii at Manoa//University of Hawaii at Manoa). Unifying Accounting in the People's Republic of China [professional development]. *The International Journal of Accounting*. 1994; 29(4): 352-363.

Methodology: historical.

Study of the underlying reasons for the recent improvements with the accounting system in the People's Republic of China.

385. Keasey, Kevin; McGuiness, Paul, United Kingdom (University of Leeds, United Kingdom//Chinese University of Hong Kong). An Examination of the Accuracy and Bias Prospectus Earnings Forecasts: UK Evidence [accounting theory]. *The International Journal of Accounting*. 1991; 26(4): 252-263.

Methodology: theoretical.

Examination of accuracy and bias of prospectus earnings forecasts (PEFs). Reveals that PEF is a conservative but more accurate estimation of future earnings while positively related to the time horizon of forecasts.

386. Kenny, Sara York; Larson, Robert K., Global (University of Utah, Salt Lake City// Pennsylvania State University at Harrisburg). The Development of International Accounting Standards: An Analysis of Constituent Participation in Standard-Setting [miscellaneous]. *The International Journal of Accounting*. 1995; 30(4): 211.

Methodology: empirical descriptive.

Analysis determining the major organizational participants in the standard-setting process of the International Accounting Standards Committee (IASC).

387. Kern, Werner, Germany (University of Cologne). The Accounting Concept in German Labor-Oriented Business Management [information systems]. *The International Journal of Accounting*. 1975 Mar; 10(2): 23-35.

Methodology: theoretical.

Discussion of the "labor-oriented business management" proposal, originating in the Institute for Economic and Social Sciences of the German Federation of Trade Unions, to create a more informative accounting system. Shows that this concept is intended to be a counterpart to traditional business management.

388. Keyserlingk, Alexander N., none (International Finance Corporation). International Public Accounting: An Underdeveloped Profession [public accounting]. *The International Journal of Accounting*. 1975 Sep; 11(1): 15-22.

Methodology: theoretical.

Study of why auditing and accounting professions have failed to expand worldwide. Also discusses the expansion abroad of large audit firms in response to the growth of international audit firms.

389. Keyserlingk, Alexander N.; Tetley, John C. N., United States (International Finance Corporation//International Finance Corporation). Management Controls of Investments in an International Development Bank [managerial accounting]. Managerial Accounting: An Analysis of Current International

Application. Champaign, IL: Center for International Education and Research in Accounting; 1984 Jan: 23-39.
Methodology: deductive descriptive.
Discussion of the management control system of the International Finance Corporation (IFC). Describes the relationships of IFC with the World Bank and the control system for investments before and after approval.

390. Kim, Jeong-Bon; Krinsky, Itzhak; Lee, Jason, Korea (Concordia University, Montreal, Quebec//MacMaster University, Hamilton, Ontario//MacMaster University, Hamilton, Ontario). The Valuation of Initial Public Offerings and Accounting Disclosures in Prospectuses: New Evidence from Korea [financial accounting & reporting]. *The International Journal of Accounting*. 1994; 29(1): 46-61.
Methodology: capital markets.
Study involving the correlation between the valuation of initial public offerings (IPOs) in Korea and the different motives having an impact of such valuations.

391. Kim, Seung H.; Kuzdrall, Paul J., United States/United Kingdom/Switzerland/Chile/Colombia/Uruguay (Saint Louis University//University of Akron). The Simulation of Financial Strategy under Fluctuating Exchange Rates Conditions [miscellaneous]. *The International Journal of Accounting*. 1977 Mar; 12(2): 93-107.
Methodology: modeling.
Discussion of the simulation models for accounting for exchange rate changes. Presents models both for developed countries and for less developed countries.

392. Kirsch, Robert J.; Becker-Dermer, Dawn, United States/Canada/United Kingdom/Australia/New Zealand (Southern Connecticut State University//Ludlow Composites Corporation, Fremont, Ohio). Proposed Revisions of International Accounting Standard No. 21 and their Implications for Translation Accounting in Selected English-Speaking Countries [financial accounting & reporting]. *The International Journal of Accounting*. 1995; 30(1): 1 - 24.
Methodology: deductive descriptive.
Presentation of proposed revisions to reduce the alternatives allowed in reporting foreign exchange rates translations in an effort toward accounting harmonization.

393. Kirsh, Robert J.; Evans, Thomas G., United States (Southern Connecticut State University//University of Central Florida). The Implementation of SFAS 52: Did the Functional Currency Approach Prevail? [economics & development]. *The International Journal of Accounting*. 1994; 29(1): 20-33.
Methodology: empirical statistical.
Examination of the foreign environmental influence on the currency determination process as presented in SFAS 52. Results of this analysis do not support U.S. dollar approach to currency translation.

394. Kirsh, Robert J.; Johnson, Wayne, United States (Bowling Green State University//Bowling Green State University). The Impact of Fluctuating Exchange Rates on US Multinational Corporate Budgeting for, and Performance Evaluation of,

Foreign Subsidiaries [managerial accounting]. *The International Journal of Accounting*. 1991; 26(3): 149-173.

Methodology: empirical statistical.

Evaluation of methods used to implement foreign exchange rates in preparing operating budgets of foreign subsidiaries of US based multinational corporations.

395. Koch, Helmut, Germany (Westfalische Wilhelms Universitat, Germany). The Concept of Synchronized Profit and Loss Accounting in Response to Continuous Increases or Decreases in Prices [managerial accounting]. *The International Journal of Accounting*. 1986 Mar; 21(2): 133-144.

Methodology: theoretical.

Discussion of profit and loss accounting during changes in prices. Presents a model for "synchronized profit and loss accounting.."

396. Kohler, Eric L., United States (accounting consultant). Methodologies on Activity Accounting [managerial accounting]. *The International Journal of Accounting*. 1967 Mar; 2(2): 59-64.

Methodology: deductive descriptive.

Outline of the principle features of activity accounting.

397. Kohler, Eric L., United States (accounting consultant). On Developing International Accounting Meanings [financial accounting and reporting]. *The International Journal of Accounting*. 1965 Sep; 1(1): 35-40.

Methodology: deductive descriptive.

Discussion of the simplification and overuse of terms in the accounting profession and the difficulties with defining and translating such terms.

398. Kortan, Jerzy, Eastern bloc countries (Institute for Organization and Management/ University of Lodz, Poland). International Economic Organizations and Joint Enterprises in Socialist Countries—Principles of Operation and Management [economics and development]. *The International Journal of Accounting*. 1976 Sep; 12(1): 147-165.

Methodology: deductive descriptive.

Discussion of the roles and benefits of cooperative organizations such as joint international organizations, joint international economic organizations, and joint enterprises.

399. Kosiol, Erich E., none (Free University of Berlin). Accounting Models as Bases of Managerial Decisions [accounting theory]. *The International Journal of Accounting*. 1969 Sep; 5(1): 47-59.

Methodology: theoretical.

Study of the need for cooperation between theory and practice in order to jointly construct accounting models for use in practical applications.

400. Kosiol, Erich E., none (Free University of Berlin). An Axiomatic Approach to the Pagatoric Theory of Financial Income Determination [accounting theory]. *The International Journal of Accounting*. 1970 Mar; 5(2): 1-28.

Methodology: theoretical.

Outline of the pagatoric theory of income determination, which describes all entries, transactions, items, and statements of the financial bookkeeping system

in terms of payments by reducing the amounts to various types of receipts and disbursements.

401. Kosiol, Erich E., Germany (Free University of Berlin). Price Changes, Money Value, and Profit Distribution Within the Framework of Financial Accounting [accounting theory]. *The International Journal of Accounting*. 1966 Sep; 2(1): 1-24.
Methodology: deductive descriptive.
Discussion of the German concepts of income determination which originated as a result of the inflationary pressures on accounting after World War I.

402. Kosiol, Erich E., none (Free University of Berlin). A Proposal for a General Concept of Cost [accounting theory]. *The International Journal of Accounting*. 1967 Sep; 3(1): 1-19.
Methodology: theoretical.
Study of the value of using a general cost concept in the development of a precise theoretical foundation of the cost accounting field.

403. Krasensky, Hans, United States (Hochschule fur Welthandel, Austria). The Concept of a Business Asset [accounting theory]. *The International Journal of Accounting*. 1967 Mar; 2(2): 47-58.
Methodology: theoretical.
Study of the difficulty of determining whether or not a good belongs to the assets of a firm. Discusses the circumstances in which a general economic good becomes an accountable business asset.

404. Krieg, Emile, none (Ingenieur E.C.P.). New Landmarks for Accountancy [accounting theory]. *The International Journal of Accounting*. 1969 Mar; 4(2): 93-113.
Methodology: theoretical.
Proposal for the abandonment of conventional double-entry principles of objective historical costs and the adoption of a new type of double-entry principles.

405. Kubin, Konrad W., United States (Virginia Polytechnic Institute and State University). The Changing Nature of International Accounting Courses [accounting education]. *The International Journal of Accounting*. 1973 Sep; 9(1): 99-111.
Methodology: deductive descriptive.
Discussion of the changing nature of international accounting courses. Provides some thoughts and encouragement to colleagues who contemplate establishing, or participating in, an international accounting course.

406. Kubota, Keiichi, Japan (Musaski University, Japan). Information Content of Accounting Numbers: Evidence on Tokyo Stock Exchange Firms [accounting theory]. *The International Journal of Accounting*. 1980 Mar; 15(2): 61-76.
Methodology: capital markets.
Study of the correlation between the accounting disclosure of Japanese firms with the return of the firms' securities. Does not pinpoint a specific part of the information as a cause.

407. Kullberg, Duane R., United States/Switzerland (Arthur Andersen & Company). Management of a Multinational Public Accounting Firm [public accounting]. *The International Journal of Accounting*. 1981 Sep; 17(1): 1-5.
Methodology: deductive descriptive.

Description of the managerial structure and internal environment of Arthur Anderson & Company.

408. Kupzhasar, Naribaev, Soviet Union (Alma-Ata Institute of National Economy, USSR). Computer Applications in Soviet Accounting [information systems]. *The International Journal of Accounting*. 1974 Sep; 10(1): 33-43.
Methodology: theoretical.
Study of the use of computers in accounting in the Soviet Union and how computer use has influenced organizational and educational processes.

409. Kurisaka, Yoshiro, Japan/United States (International Affairs of the Keizai Koho Center in Japan). Lessons and Opportunities in International Communication [economics and development]. Recent Accounting and Economic Developments in the Far East. Champaign, IL: Center for International Education and Research in Accounting; 1988 May: 229-234.
Methodology: deductive descriptive.
Discussion of the trade relationship between the U.S. and Japan finding that Japan's markets are far more open than many U.S. markets. Calls for less competition and greater friendship between the two countries.

410. Kwang, Ching-Wen, China/United Nations (California State College at Hayward). The Economic Accounting System of State Enterprises in Mainland China [financial accounting and reporting]. *The International Journal of Accounting*. 1966 Mar; 1(2): 61-99.
Methodology: theoretical.
Study of the concept of "economic accounting" as it is used in mainland China and the implementation of the economic accounting system in various Chinese state enterprises.

411. Lainez, Jose A.; Callao, Susana; Jarne, Jose I., Global (University of Zaragoza). International Harmonization of Reporting Required by Stock Markets [financial accounting and reporting]. *The International Journal of Accounting*, 1996; 31(4): 405-418.
Methodology: capital market
An evaluation of the degree of reporting required on the part of the different stock markets from those companies which wish to be quoted on them, testing whether the degrees of requirements are homogeneous at an international level.

412. Lal, Mohan; Dunk, Alan S., Smith, Gregory D., Global (Massey University/The University of Western Sydney/KPMG Peat Marwick). The Propensity of Managers to Create Budgetary Slack: A Cross-National Re-Examination using Random Sampling [managerial accounting]. *The International Journal of Accounting*, 1996; 31(4): 483-496.
Methodology: empirical statistical
An examination of how managers' propensity to create budgetary slack is influenced by the importance of meeting the budget, the degree of participation allowed, the level of technology employed and the ability of superiors to detect slack.

413. Lassila, Dennis R.; Smith, L. Murphy, United States (Texas A & M University// Texas A & M University). An Analysis of Alternative Tax Treatments of the

Net Income of Controlled Foreign Subsidiaries of US Multinational Corporations [taxation]. *The International Journal of Accounting*. 1991; 26(1): 27-50.
Methodology: deductive descriptive.
Analysis of U.S. tax burden on net income of U.S. corporations' foreign subsidiaries under current law and three proposals to change the law. Concludes that the low flat rate alternative is both simple and comparable to the current one.

414. Laswad, Fawzi; Mak, Y. T., New Zealand/Australia/United States/Canada/United Kingdom (Victoria University of Wellington, New Zealand//Victoria University of Wellington, New Zealand). An International Comparison of Uncertainty Expressions in Accounting Standards [financial accounting & reporting]. *The International Journal of Accounting*. 1994; 29(1): 1-19.
Methodology: deductive descriptive.
Discussion of uncertainty expressions used in various accounting situations and the consistency of their use across different countries.

415. Latanich, Gary A.; Kaminarides, John, United States (Arkansas State University// Arkansas State University). Performance of Accountants in International Business [professional development]. *The International Journal of Accounting*. 1984 Mar; 19(2): 157-164.
Methodology: empirical statistical.
Discussion of a survey that found a lack of productivity among accountants at the international level.

416. Lau, Amy Hing-Ling; Yang, Ji-Liang, China (Oklahoma State University//Shanghai Academy of Social Sciences, People's Republic of China). Auditing in China: Historical Perspective and Current Developments [auditing]. *The International Journal of Accounting*. 1990; 25(1): 53-62.
Methodology: deductive descriptive.
Discussion of the historical, governmental, social, and economic influences on the auditing profession in China.

417. Lawson, G. H., United Kingdom (University of Manchester, England). The Measurement of Corporate Profitability on a Cash-Flow Basis [managerial accounting]. *The International Journal of Accounting*. 1980 Sep; 16(1): 11-46.
Methodology: theoretical.
Study of the negative effects that current methods of interest and taxation have on corporations in the U.K. and, by implication, all other democratic countries. Concludes that if current trends continue, lending institutions will assume control of the corporations in the U.K.

418. Lebow, Marc I.; Tondkar, Rasoul H., Soviet Union (Virginia Union University// Virginia Commonwealth University). Accounting in the Soviet Union [governmental]. *The International Journal of Accounting*. 1986 Sep; 22(1): 61-79.
Methodology: deductive descriptive.
Discussion of the historical, social, and economic influences on the Soviet Union's accounting system.

419. Lee, Dominica S., Hong Kong/United States (Chinese University of Hong Kong, Shatin, Hong Kong). Further Evidence on Auditor Concentration: The Case of a

Growing Market [auditing]. *The International Journal of Accounting*. 1994; 29(3): 234-250.
Methodology: empirical descriptive.
Comparative study of auditor concentration in Hong Kong and the United States and some of the underlying reasons.

420. Lee, John Y.; Monden, Yasuhiro, United States/Japan (Pace University/University of Tsukuba, Japan). An International Comparison of Manufacturing-Friendly Cost Management Systems [managerial accounting]. *The International Journal of Accounting*, 1996; 31(2): 197-212.
Methodology: deductive descriptive
An international comparison of cost management systems which have claimed as manufacturing-friendly in US and Japan, specifically between activity-based costing and target costing and kaizen costing regarding their relative merits in strategic cost management and operational improvement and control.

421. Lee, Samuel S. O., Korea (Korean Industrial Bank). Some Accounting and Philosophical Aspects of the Third Korean Property Revaluation Law [financial accounting and reporting]. *The International Journal of Accounting*. 1968 Mar; 3(2): 117-123.
Methodology: deductive descriptive.
Study of the Korean Property Revaluation Law of 1965, suggesting areas for improvement.

422. Leech, Stewart A.; Pratt, Denis J.; Magill, W. G. W., Australia (University of Tasmania//University of Tasmania//University of Tasmania). Asset Revaluations and Inflation in Australia, 1950 to 1975: An Industry Study [financial accounting and reporting]. *The International Journal of Accounting*. 1982 Mar; 17(2): 23-34.
Methodology: empirical descriptive.
Study of fourteen industries in Australia regarding asset revaluation. Finds that six of the industries had a tendency to revalue based on increases of the companies' outputs.

423. Leech, Stewart A.; Pratt, Denis J., United Kingdom/New Zealand/Australia (University of Tasmania//University of Tasmania). Current Cost Accounting in Australia, New Zealand, and the United Kingdom: A Comparative Study [financial accounting and reporting]. *The International Journal of Accounting*. 1978 Mar; 13(2): 105-118.
Methodology: deductive descriptive.
Comparison of the current cost accounting methods in the United Kingdom, New Zealand, and Australia. Concludes that these countries will gradually move to current cost accounting as the basis for financial reporting.

424. Lefebvre, Chris J. L., Belgium/European Economic Community (Katholieke Universitiet Leuven, Belgium). Development of Belgian Accounting Standards Within the European Economic Community Framework [financial accounting and reporting]. *The International Journal of Accounting*. 1981 Sep; 17(1): 103-132.
Methodology: deductive descriptive.

Overview of the impact that the European Economic Community has had on Belgian accounting.

425. Lefebvre, Chris J. L., Belgium (Katholieke Universitiet Leuven, Belgium). The Impact of Accounting Education on Accounting Research and Practice in Belgium [accounting education]. Comparative International Accounting Educational Standards. Champaign, IL: Center for International Education and Research in Accounting; 1990 Apr: 71-95.
Methodology: deductive descriptive.
Synopsis of the historical and social effects on accounting research in Belgium. Concludes that accounting research is not highly regarded in Belgium, thus making accounting education more practical than theoretical.

426. Lefebvre, Chris J. L.; Lin, Liang-qi, China (Katholieke Universitiet Leuven, Belgium//Katholieke Universitiet Leuven, Belgium). Internationalization of Financial Accounting Standards in the Peoples' Republic of China [financial accounting and reporting]. *The International Journal of Accounting*. 1990; 25(3): 170-183.
Methodology: deductive descriptive.
Analysis of the regulations, capital structure, financial reporting, and methodologies responsible for the current accounting practices in China. Contends that Chinese financial statements may be translated accurately.

427. LeMelle, Wilbert J., none (International Division for the Middle East and African Overseas Development program of the Ford Foundation). The Imperative of an Economic Development Program [economics and development]. *The International Journal of Accounting*. 1967 Sep; 3(1): 101-106.
Methodology: theoretical.
Study of two aspects of development programming, the organizational requirement for effective program administration and project construction and implementation.

428. Lemon, W. Morley, Canada (University of Waterloo, Canada). Current International Accounting Education Standards-Canada [accounting education]. Comparative International Accounting Educational Standards. Champaign, IL: Center for International Education and Research in Accounting; 1990 Apr: 133-145.
Methodology: deductive descriptive.
Outline of the professional and educational requirements of the major accounting bodies in Canada (CICA, SMAC, and CGAAC). Describes the accounting program of the Waterloo University.

429. Leonard, Thomas B., United States (Price Waterhouse & Company). The Auditor's Review of Management Reports and Records [auditing]. Managerial Accounting: An Analysis of Current International Application. Champaign, IL: Center for International Education and Research in Accounting; 1984 Jan: 83-91.
Methodology: deductive descriptive.
Discussion of the use of management reports by auditors, emphasizing the effect that management information systems have had on reporting and reliability.

430. Leung, Victor K. L., United States/United Kingdom/Canada/Australia (The Chinese University of Hong Kong). An Institutional Analysis of Authorship in the *International Journal of Accounting Education and Research* [miscellaneous]. *The International Journal of Accounting*. 1988 Mar; 23(2): 179-187.
Methodology: deductive descriptive.
Discussion and analysis of the countries and affiliations of the contributors of articles published in the *International Journal of Accounting*.

431. Lev, Baruch, Israel/United States (Tel Aviv University). The Formulation of Accounting Standards and Rules: A Comparison of Efforts in Israel and the United States [financial accounting and reporting]. *The International Journal of Accounting*. 1976 Mar; 11(2): 121-131.
Methodology: deductive descriptive.
Comparison of the development of accounting standards and rules in Israel and the U.S. Provides some general observations on the problem of accounting principles formulation.

432. Lin, Liangqi; Lefebvre, Chris, Belgium (Catholic University, Leuven//Catholic University, Leuven). Defining a Subsidiary: A Comparison of IAS 27, EC Seventh Directive, and the Belgian Royal Decree on Consolidation [miscellaneous]. The New Europe: Recent Political and Economic Implications for Accountants and Accounting. Champaign, IL: Center for International Education and Research in Accounting; 1994: 1-16.
Methodology: deductive descriptive.
Comparative discussion of the IAS No. 27, EC Seventh Directive, and the Belgian Royal Decree on Consolidation in terms of European accounting harmony.

433. Lin, Liang-Qi; Lefebvre, Chris; Kantor, Jeffrey, Asian Pacific (Katholieke Universiteit Leuven, Belgium//Katholieke Universiteit Leuven, Belgium//Katholieke Universiteit Leuven, Belgium//Windsor University, Canada). Economic Determinants of International Transfer Pricing and the Related Accounting Issues, with Particular Reference to Asian Pacific Countries [economics and development]. *The International Journal of Accounting*. 1993; 28(1): 49-70.
Methodology: deductive descriptive.
Study of international transfer pricing in various Asian Pacific countries.

434. Lin, Zhijun; Deng, Shengliang, China (University of Lethbridge, Alberta, Canada// University of Saskatchewan, Saskatoon, Canada). Educating Accounting in China: Current Experiences and Future Prospects [accounting education]. *The International Journal of Accounting*. 1992; 27(2): 164-177.
Methodology: historical.
A historical overview of accounting in China and an outlook on the reform of Chinese accounting education.

435. Lindsay, Daryl, Australia/Canada (University of Saskatchewan, Saskatoon, Canada). Auditor-Client Conflict Resolution: An Investigation of the Perceptions of the Financial Community in Australia and Canada [auditing]. *The International Journal of Accounting*. 1992; 27(4): 342-364.
Methodology: empirical statistical.

Examination of Canadian and Australian auditors' ability to maintain objectivity during significant conflicts over accounting issues by investigating various environmental factors.

436. Linowes, David F., United States (Laventhol, Krekstein, Horwath & Horwath). Commentary on the Foreign Direct Investment Program [economics and development]. *The International Journal of Accounting*. 1968 Sep; 4(1): 81-82.
Methodology: theoretical.
A brief commentary on the Foreign Direct Investment Program.

437. Linowes, David F., Canada/United States/France (University of Illinois at Urbana-Champaign). The Implications of Transborder Data-Flow Development for the Accounting Profession [accounting theory]. *The International Journal of Accounting*. 1981 Sep; 17(1): 33-41.
Methodology: deductive descriptive.
Description of the technological innovations currently involved in international telecommunications. Also discusses various regulations placed in the flow of this information.

438. Linowes, David F., Saudi Arabia/Kuwait/Soviet Union/United States (University of Illinois at Urbana-Champaign). International Business and Morality [social effects of accounting]. The Multinational Corporation: Accounting and Social Implications. Champaign, IL: Center for International Education and Research in Accounting; 1977 Jan: 151-158.
Methodology: deductive descriptive.
Description of several different countries' approaches to ethics.

439. Linowes, David F., United States (Laventhol, Krekstein, Horwath & Horwath). Strategies for the Survival of Our Democratic Institutions [social effects of accounting]. *The International Journal of Accounting*. 1973 Sep; 9(1): 1-12.
Methodology: theoretical.
Critique of the inefficiencies of government and social institutions. Recommends a socioeconomic accounting and management approach to the problem.

440. Lister, Roger J., United States/United Kingdom (University of Liverpool, England). Accounting as History [accounting history]. *The International Journal of Accounting*. 1983 Mar; 18(2): 49-68.
Methodology: theoretical.
Study that concludes that accounting history should be viewed as a series of disconnected episodes rather than as a thoughtful development.

441. Littleton, A. C., none (University of Illinois at Urbana-Champaign). The Continuing Importance of Basic Concepts [accounting theory]. *The International Journal of Accounting*. 1965 Sep; 1(1): 55-65.
Methodology: theoretical.
Study that rejects the deductive approach in accounting research in favor of the inductive approach.

442. Littleton, A. C., none (University of Illinois at Urbana-Champaign). The Significance of Interrelated Concepts in Accounting [accounting theory]. *The International Journal of Accounting*. 1966 Sep; 2(1): 25-34.
Methodology: theoretical.

Discussion of the interrelationships among accounting concepts used in enterprise accounting.

443. Lubbert, Jens, United States/Europe (University of Hamburg). National Accounting—Its Scope and Purpose [public accounting]. *The International Journal of Accounting*. 1966 Mar; 1(2): 43-59.
Methodology: theoretical.
Brief survey of the history and purposes of national accounting and of basic accounting problems that are dealt with in research.

444. Luck, Wolfgang, Germany (Phillips-Universitat Marburg, Germany). The Education of Professional Accountants in West Germany: A Comparative International Study [professional development]. Comparative International Accounting Educational Standards. Champaign, IL: Center for International Education and Research in Accounting; 1990 Apr: 41-60.
Methodology: deductive descriptive.
Discussion of the development of professional accounting education in West Germany, giving both a historical and institutional overview. Concludes that the system will move toward international accounting education concerns.

445. Luck, Wolfgang, Germany (Technical University of Berlin). The Impact of International Standards and Other Developments on the German Accounting Profession [financial accounting and reporting]. *The International Journal of Accounting*. 1982 Sep; 18(1): 45-56.
Methodology: deductive descriptive.
Discussion of the international and domestic influences on the German accounting profession. Concludes that these influences will affect the German profession more in the future than they have in the past.

446. Luck, Wolfgang, Germany (Phillips-Universitat Marburg, Germany). Problems of International Corporate Consolidations: A German View [financial accounting and reporting]. The Multinational Corporation: Accounting and Social Implications. Champaign, IL: Center for International Education and Research in Accounting; 1977 Jan: 159-181.
Methodology: theoretical.
Discussion of the German accounting practices for consolidating the multinational enterprise. Also includes a desscription of the translation methods used.

447. Luck, Wolfgang, Germany (director of special education for public accounting firms in Germany). Recent Changes in the German Professional Certified Public Accountant (*Wirtschaftsprufer*) Examination [public accounting]. *The International Journal of Accounting*. 1977 Sep; 13(1): 131-140.
Methodology: deductive descriptive.
Discussion of the current requirements to become a CPA in Germany, including historical backgrounds.

448. Luther, Robert, Australia/United States/South Africa/Canada/United Kindom (University of Exeter). The Development of Accounting Regulation in the Extractive Industries: An International Review [financial accounting and reporting]. *The International Journal of Accounting*, 1996; 31(1): 67-93.
Methodology: deductive descriptive

A review of the development of accounting regulations and practices in the extractive industries in five countries. Exposes possible explanations for the lack of conformity and dearth of extractive industry accounting regulation.

449. Lynn, Murray; McGuiness, Paul, Hong Kong (Chinese University of Hong Kong// Chinese University of Hong Kong). The Incidence, Nature, and Impact of Extraordinary Items on Earnings: An Exploratory Study for Hong Kong [financial accounting & reporting]. *The International Journal of Accounting*. 1995; 30(1): 62-82.
Methodology: empirical statistical.
Examination of reported extraordinary items by Hong Kong companies over a five-year period.

450. MacArthur, John B., Global (Uiversity of North Florida). An Investigation into the Influence of Cultural Factors in the International Lobbying of the International Accounting Standards Committee: the Case of E32, *Comparability of Financial Statements* [financial accounting and reporting]. *The International Journal of Accounting*, 1996; 31(2): 213-237.
Methodology: empirical descriptive
An investigation of the influence of cultural factors on the corporate comment letters sent on the International Accounting Standard Committee's E32, *Comparability of Financial Statements*, to test Gray's hypothesized linkages between accounting values and the cultural values identifed by Hofstede.

451. Macharzina, Klaus R., Germany (Hohenheim University, Germany). The Impact of Inflation on German Accounting: Theoretical Background and Professional Issues [financial accounting and reporting]. The Impact of Inflation on Accounting: A Global View. Champaign, IL: Center for International Education and Research in Accounting; 1979 May: 225-240.
Methodology: deductive descriptive.
Discussion of the German approach to inflation accounting, compared with approaches followed in other European countries.

452. Macharzina, Klaus R.; Coenenberg, Adolf G., Germany/Europe/United Kingdom/ United States (University of Hohenheim at Stuttgart, Germany//University of Augsburg, Federal Republic of Germany). Current-Cost or Current Purchasing-Power Accounting? An Internationally Based Assessment of FASB Statement No. 33 on Financial Reporting and Changing Prices [accounting theory]. *The International Journal of Accounting*. 1981 Mar; 16(2): 149-162.
Methodology: theoretical.
Comparison of the German model for inflation accounting with those of the U.S. and U.K. Concludes that information regarding price-level change is not necessary to users.

453. Macve, Richard; Liu, Zhi Yu, China (North Dakota State University//North Dakota State University). A Proposal to Form a Unified Chinese Public Accountancy Profession: An Academic Perspective [professional development]. *The International Journal of Accounting*. 1995; 30(1): 48-61.
Methodology: deductive descriptive.

Proposals to regulate Chinese public accounting and auditing professions as well as the necessity to create a formal Certified Public Accountant designation as a professional qualification.

454. Maingot, Michael, United Kingdom/Canada/United States (University of Ottawa). Published Interim Reports in the United Kingdom [financial accounting and reporting]. *The International Journal of Accounting*. 1983 Mar; 18(2): 133-149.
Methodology: empirical descriptive.
Survey of firms in the U.K. regarding financial disclosure. Finds that firms in the U.K. should disclose on an interim basis.

455. Mak, Y. T., New Zealand/United States/United Kingdom (Victoria University of Wellington, New Zealand). The Determinants of Accuracy of Management Earnings Forecasts: A New Zealand Study [managerial accounting]. *The International Journal of Accounting*. 1989; 24(3): 267-280.
Methodology: empirical statistical.
Analysis of the accuracy of earnings forecasts, through a comparison of company, industry segment, and economic conditions.

456. Maldonado, Rita M., United States (New York University). Recording and Classifying Transactions in the Balance of Payments [financial accounting and reporting]. *The International Journal of Accounting*. 1979 Sep; 15(1): 105-133.
Methodology: theoretical.
Discussion of the balance of payments method of accounting for foreign exchange. Concludes that because of the complexity of the collection of data, a balancing entry is required to offset errors.

457. Mande, Vivek, Japan/United States (University of Nebraska). A Comparison of US and Japanese Analysts' Forecasts of Earnings and Sales [miscellaneous]. *The International Journal of Accounting*, 1996; 31(2): 143-160.
Methodology: empirical statistical
An examination of whether there are significant differences in the forecast accuracy of US and Japanese analysts in sales and earnings. Explains the source of Japanese analysts' forecast superiority in sales.

458. Markell, William, Israel (University of Delaware). Accounting Education—Its Importance in Developing Countries: Israel—A Case Study [accounting education]. *The International Journal of Accounting*. 1968 Mar; 3(2): 125-33.
Methodology: deductive descriptive.
Case study of accounting education in Israel used to emphasize the importance of accounting to the economic health and growth of developing nations, the need for trained personnel in accounting, and the importance of managing such development in businesses.

459. Markell, William, New Zealand/United States/United Kingdom (University of Delaware). A Comparison of Preparation for the Accounting Profession among New Zealand, the United Kingdom, and the United States [accounting education]. *The International Journal of Accounting*. 1980 Mar; 15(2): 101-114.
Methodology: deductive descriptive.
Comparison of the accounting education systems in New Zealand, the U.K., and the U.S. Concludes that all are similar with a few exceptions. The trend in the U.S. is toward a five-year program. Programs in the United Kingdom are

moving towards a longer educational period and a better balance between theory and practice. In New Zealand the need is for a professional examination prior to public practice.

460. Markell, William, Botswana/United States (University of Delaware). Development of Accounting Education and the Accounting Profession in Third World Countries: Botswana [accounting education]. *The International Journal of Accounting*. 1985 Sep; 21(1): 99-105.
Methodology: deductive descriptive.
Description of the accounting profession in Botswana, centering on the accounting program at the University of Botswana.

461. Martens, Stanley C.; McEnroe, John E., United States (DePaul University, Chicago, Illinois). Accounting Standard Setting in the United States: Are Public Accountants Serving on FASB Influenced by their Former Firms? [professional development]. *The International Journal of Accounting*. 1993; 28(2): 147-155.
Methodology: empirical descriptive.
Study to determine the independence (or influence) of public accountants serving on the Financial Accounting Standards Board (FASB) from their former employers.

462. Mauritz, E. Waldo, none (International Finance Corporation). Observations on Accounting in International Finance [financial accounting and reporting]. *The International Journal of Accounting*. 1969 Sep; 5(1): 61-69.
Methodology: deductive descriptive.
Review of the developments in international accounting. Contends that accounting has failed to communicate compatible information from one country to another.

463. Mautz, R. K., United States (University of Illinois at Urbana-Champaign). The Direction of Accounting Education [accounting education]. *The International Journal of Accounting*. 1967 Mar; 2(2): 37-46.
Methodology: theoretical.
Review of the changes in accounting education, projecting developments which appear unavoidable if present tendencies continue. Suggests the steps accountancy must take in order to meet current needs and to prepare for the future.

464. Mautz, Robert K., Unknown (University of Illinois). Ethics—A Philosophical Analysis [professional development]. Ethical Considerations in Contemporary International Accounting Practice. Champaign, IL: Center for International Education and Research in Accounting, Department of Accountancy; 1992: 1-10.
Methodology: deductive descriptive.
A philosophical summary of the term ethics, its underlying principles, and ethics in regard to its application to public accounting.

465. McEnroe, John E., Global (DePaul University). An Examination of Attitudes Involving Cash Flow Accounting: Implications for the Content of Cash Flow Statements [financial accounting and reporting]. *The International Journal of Accounting*, 1996; 31(2): 161-174.
Methodology: empirical descriptive.

A survey of the attitudes of several segments of the financial community towards additional cash flow disclosures as well as their perceptions regarding certain professed attributes of Cash Flow Accounting.

466. McCall, Owen S.; Popoff, Boris, New Zealand (Deloitte & Touche//University of Otago, New Zealand). The Income and Rate of Return of Farming Enterprises: A New Zealand Case Study [managerial accounting]. *The International Journal of Accounting*. 1987 Sep; 23(1): 105-127.
Methodology: empirical descriptive.
Case study of the accounting implications on a sheep farm in New Zealand.

467. McClure, Malcolm M., Soviet Union/Poland/Rumania/East Germany/Yugoslavia (Illinois State University). An Overview of Rumanian Accounting [financial accounting and reporting]. *The International Journal of Accounting*. 1983 Sep; 19(1): 131-156.
Methodology: deductive descriptive.
Discussion of the structure and theory of Rumanian accounting. Provides a background of methods and statement requirements.

468. McComb, Desmond, Europe/Germany/Ireland/Netherlands/France/Greece/Belgium/Lux emburg/Italy/Denmark/ United Kingdom (University of Southampton, England). Harmonization of European Corporate Financial Reporting [economics and development]. The Recent Accounting and Economic Developments in Western Europe. Champaign, IL: Center for International Education and Research in Accounting; 1985 May: 31-58.
Methodology: deductive descriptive.
Description of the effects of the seventh and eighth directives on the European Economic Community.

469. McComb, Desmond, United States/European Economic Community (University of Southampton, England). International Accounting Standards and the EEC Harmonization Program: A Conflict of Disparate Objectives [financial accounting and reporting]. *The International Journal of Accounting*. 1982 Mar; 17(2): 35-48.
Methodology: deductive descriptive.
Discussion of the development of international accounting standards. Discusses the main topics which have had an influence on these standards.

470. McComb, Desmond, United Kingdom/France/West Germany (University of Southampton, England). The International Harmonization of Accounting: A Cultural Dimension [financial accounting and reporting]. *The International Journal of Accounting*. 1979 Mar; 14(2): 1-16.
Methodology: deductive descriptive.
Discussion of the many influences on the development of international accounting standards. Contends that an understanding of those influences is necessary to achieve better international standards.

471. McGuinness, Paul, Hong Kong (Chinese University of Hong Kong). The Financial Characteristics of Hong Kong Tender Offer Targets [economics & development]. *The International Journal of Accounting*. 1993; 28(3): 215-231.
Methodology: empirical statistical.

Investigation of financial attributes of companies which are most susceptible to corporate takeovers in Hong Kong. Statistical analysis on data taken revealed that target firms had higher profit growth levels and liquidity while having lower gearing levels.

472. McKeown, James, none (University of Illinois at Urbana-Champaign). Professional Responses to Reporting the Impact of Inflation: A Discussion-Part II [financial accounting and reporting]. The Impact of Inflation on Accounting: A Global View. Champaign, IL: Center for International Education and Research in Accounting; 1979 May: 183-188.
Methodology: deductive descriptive.
Discussion of issues raised by Felix Pomeranz.

473. McKinnon, Jill, Japan/United States (Macquarie University, Australia). Cultural Constraints on Audit Independence in Japan [auditing]. *The International Journal of Accounting*. 1984 Sep; 20(1): 17-43.
Methodology: deductive descriptive.
Discussion of the social and legal factors affecting independence in Japan.

474. McKinnon, S. M.; Janell, Paul, global (Northeastern University//Northeastern University). The International Accounting Standards Committee: A Performance Evaluation [financial accounting and reporting]. *The International Journal of Accounting*. 1984 Mar; 19(2): 19-34.
Methodology: deductive descriptive.
Critique of the role of the IASC in implementing international standards. Contends that shortcomings of the IASC are due to internal constraints within individual countries which will be lifted as companies look for international financing.

475. McMahon, Terrence J., Brazil/Developing Countries (United States Agency for International Development Mission, Brazil). Brazil: A Maturing Capital Market Seeks Accelerated Improvements in Accountancy [economics and development]. *The International Journal of Accounting*. 1972 Sep; 8(1): 77-87.
Methodology: deductive descriptive.
Review of how the demand for the FUMCAP program evolved, with suggestions as to how this program can accomplish its purpose.

476. Meek, Gary, United States/Japan/Netherlands/Philippines/United Kingdom/Israel (Oklahoma State University). Interim Earnings Announcements in the United States by Non-U.S. Multinational Corporations-Responses by the U.S. Securities Market [financial accounting and reporting]. *The International Journal of Accounting*. 1985 Mar; 20(2): 1-18.
Methodology: capital markets.
Study of the effects of financial announcements made abroad and of the foreign stock markets in which a company's securities are traded. Finds that these announcements do affect stock prices abroad, however not equally, from one country to another.

477. Meek, Gary, United States/Israel/Japan/Netherlands/Philippines/United Kingdom (Oklahoma State University). The Multiple Earnings Announcements of Non-U.S. Multinational Enterprises—Implications of Observed Patterns [finan-

cial accounting and reporting]. *The International Journal of Accounting*. 1983 Sep; 19(1): 115-130.
Methodology: empirical statistical.
Study of non U.S. multinational companies regarding their reporting practices. Concludes that a great many reporting deficiencies exist world wide.

478. Meek, Gary; Gray, Sidney J., United States/EEC (Oklahoma State University//University of Glasgow). The Impact of Stock Market and Corporate Globalization on Disclosure Trends in International Financial Reporting [financial accounting & reporting]. Changing International Financial Markets and Their Impact on Accounting. Champaign, IL: Center for International Education and Research in Accounting, Department of Accountancy; 1992: 43-66.
Methodology: capital markets.
Analysis of the effects of global stock market transactions have on the financial reporting process of multinational corporations (MNCs).

479. Mehta, Dileep R.; Thapa, Samanta, United States (Georgia State University//Western Kentucky University). FAS-52, Functional Currency, and the Non-Comparability of Financial Reports [financial accounting & reporting]. *The International Journal of Accounting*. 1991; 26(2): 71-84.
Methodology: theoretical.
Examines the notion of functional currency and its potential of non-comparability of financial reports by presenting empirical evidence of some MNCs. Five recommendations to enhance comparability.

480. Meng, Tan Teck; Hoong, Pang Yang; Liang, Foo See, Singapore (Nanyang Technical University, Singapore//Nanyang Technical University, Singapore//Nanyang Technical University, Singapore). Accounting Education and Practice: The Singapore Experience [accounting education]. *The International Journal of Accounting*. 1994; 29(2): 161-183.
Methodology: deductive descriptive.
Study of the demand and responsiveness of accounting education in Singapore and the relationship between accounting and Singapore's business and industrial base.

481. Mensah, Yaw M.; Biagioni, Louis F., none (Indiana University/Indiana University). The Predictive Ability of Financial Ratios Using Alternative Translation Methods for Foreign-Currency Financial Statements: A Simulation Study [accounting theory]. *The International Journal of Accounting*. 1980 Sep; 16(1): 221-245.
Methodology: empirical statistical.
Study of a model to determine the predictability of financial ratios using different translation methods. Indicates that none of the translation methods was more predictable than the others.

482. Mensah-Mireku, Yaw, Ghana (University of Illinois at Urbana-Champaign). Accounting Aspects of Economic Development in Ghana [economics and development]. The Multinational Corporation: Accounting and Social Implications. Champaign, IL: Center for International Education and Research in Accounting; 1977 Jan: 127-138.
Methodology: historical.

Historical description of accounting and economics in Ghana, concluding with a description of future requirements for economic development.

483. Merei, Issam J., Saudi Arabia/Egypt/United States (Arab Society of Certified Accountants). Design and Application of Professional Standards in a Developing Country: The Case in Saudi Arabia [professional development]. The Recent Accounting and Economic Developments in the Middle East. Champaign, IL: Center for International Education and Research in Accounting; 1985 May: 43-68.
Methodology: deductive descriptive.
Discussion of the current and possible trends in the development of professional standards in Saudi Arabia.

484. Messier, Jr William F., United States (University of Florida). SFAS No. 8: Some Implications for MNCs [accounting theory]. *The International Journal of Accounting*. 1979 Mar; 14(2): 101-119.
Methodology: deductive descriptive.
Discussion of past accounting practices, giving reasons for the adoption of SFAS no. 8 and considering the potential impact of this ruling.

485. Mette, Jr William R., France/Germany/United States/United Kingdom/Canada/Australia (Alexander Grant Tansley Witt). A Discussion of Current International Accounting and Reporting Problems [financial accounting and reporting]. The Multinational Corporation: Accounting and Social Implications. Champaign, IL: Center for International Education and Research in Accounting; 1977 Jan: 183-212.
Methodology: empirical descriptive.
Survey of the differences in accounting and reporting standards of France, Germany, U.S., United Kingdom, Canada, and Australia.

486. Mielke, David E.; Giacomino, Don E., United States/Europe (Marquette University//Marquette University). Cash-Flow Reporting: A Step Toward International Harmonization [financial accounting and reporting]. *The International Journal of Accounting*. 1987 Mar; 22(2): 143-152.
Methodology: deductive descriptive.
Review of the international standards affecting cash-flow accounting. Contends that the international standard-setting bodies should promulgate uniform standards.

487. Millar, James A.; Nunthirapakorn, Ted, United States/Canada (University of Arkansas//National Institute of Development Administration, Bank of Thailand). A Comparison of Earnings Per Share Reporting for United States and Canadian Companies [financial accounting & reporting]. *The International Journal of Accounting*. 1992; Vo. 27(1): 38-44.
Methodology: empirical statistical.
Statistical analysis to validate differences in earnings per share (EPS) reporting between United States and Canadian companies. Results of such analysis could not validate the hypothesis.

488. Min, H. K.; Song, Ja; Kim, J. S., Korea (University of Wisconsin, Whitewater//Yonsei University, Seoul, Korea//Yonsei University, Seoul, Korea). Accounting Education in Korea: Current Trends and the Challenge for the Future

[accounting education]. *The International Journal of Accounting*. 1993; 28(1): 78-87.
Methodology: deductive descriptive.
Study of accounting education in Korea. Topics include accounting origins, educational models and curricula, and recent important trends.

489. Mintz, Steven M., United States (California State University at Hayward). Internationalization of the Accounting Curriculum [accounting education]. *The International Journal of Accounting*. 1980 Sep; 16(1): 137-151.
Methodology: empirical descriptive.
Survey of the international members of the AAA and schools with an international curriculum, indicating a trend toward more of an international curriculum.

490. Mirghani, Mohamed A., developing countries (Miami University, Ohio). A Framework for a Linkage between Microaccounting and Macroaccounting for Purposes of Development Planning in Developing Countries [economics and development]. *The International Journal of Accounting*. 1982 Sep; 18(1): 57-68.
Methodology: theoretical.
Presentation of a framework for connecting micro and macro accounting, and the use of this framework for development purposes. Concludes that developing countries must adopt strategic plans for accounting development.

491. Moller, George, United States/Canada (international consultant). The Multinational Executive: Patroit or Traitor [managerial accounting]. *The International Journal of Accounting*. 1972 Mar; 7(2): 69-75.
Methodology: theoretical.
Presentation of a mock trial which examines the legal problems faced by top management of multinational enterprises.

492. Moores, Ken; MacGregor, Alan C., New Zealand/United States (Bond University, Queensland, Australia//University of Otago, Dunedin, New Zealand). Accounting Education in New Zealand [accounting education]. *The International Journal of Accounting*. 1992; 27(1): 69-79.
Methodology: empirical descriptive.
Analysis of the progression of accounting education in New Zealand and its interrelationship with that country's socioeconomic history and future.

493. Mora, Jr Ricardo, Mexico (Firm Despacho Freyssinier Morin, S.C., Mexico). The Accounting Profession in Mexico--And Why [financial accounting and reporting]. *The International Journal of Accounting*. 1972 Sep; 8(1): 17-24.
Methodology: historical.
Review of the history of the accounting profession in Mexico, with a discussion of current practices.

494. Morgan, Robert A., United States/Brazil (Caterpillar Tractor Company). The Multinational Enterprise and Its Accounting Needs [taxation]. *The International Journal of Accounting*. 1967 Sep; 3(1): 21-28.
Methodology: deductive descriptive.

Study of the problems that arise in accounting needs for multinational enterprises. Discusses solutions that have been used, and problems that remain unresolved.

495. Morse, Dale, Global (University of Oregon, Eugene, Oregon). Explaining the International Supply of Auditors [auditing]. *The International Journal of Accounting*. 1993; 28(4): 347-355.
Methodology: empirical statistical.
Study involving 62 different countries to compare the proportion of auditors to each country's population. Results show that countries with an established financial sector and former British colonies tend to have a larger number of auditors.

496. Morsicato, Helen G.; Diamond, Michael A., United States (University of Oregon// California State University at Los Angeles). An Approach to 'Environmentalizing' Multinational Enterprise Performance Evaluation Systems [managerial accounting]. *The International Journal of Accounting*. 1980 Sep; 16(1): 247-266.
Methodology: deductive descriptive.
Discussion of the use of environmental considerations in the evaluation of multinational enterprise performance. Centers on the Farmer-Friedman Model for incorporating environmental issues in the evaluation system.

497. Morsicato, Helen G.; Radebaugh, Lee H., United States (University of Oregon// Pennsylvania State University). International Performance Evaluation of Multinational Enterprise Operations [managerial accounting]. *The International Journal of Accounting*. 1979 Sep; 15(1): 77-94.
Methodology: empirical descriptive.
Study of the currency used by multinational corporations for internal reporting. Concludes that local currency should be used in measuring performance.

498. Most, Kenneth S., France (Texas A & M University). The French Accounting Experiment [financial accounting and reporting]. *The International Journal of Accounting*. 1971 Sep; 7(1): 15-27.
Methodology: deductive descriptive.
Application of an accounting model of a French firm to a wide range of commercial and industrial activities so that elegant variations and unnecessary proliferations could be eliminated.

499. Moustafa, Mohamed Eid, Saudi Arabia (California State University at Long Beach). Framework for the Role of Accounting in the Economic Development in Saudi Arabia [financial accounting and reporting]. The Recent Accounting and Economic Developments in the Middle East. Champaign, IL: Center for International Education and Research in Accounting; 1985 May: 197-211.
Methodology: deductive descriptive.
Discussion of the economic, social, and regulatory effects of the Saudi Arabian accounting profession.

500. Mueller, Gerhard G., none (University of Washington). Academic Research in International Accounting [professional development]. *The International Journal of Accounting*. 1970 Sep; 6(1): 67-81.
Methodology: theoretical.

Proposal of topics suitable for theoretical inquiry. Defines applied and theoretical research in accounting, as correlated with the international dimensions of the discipline.

501. Mueller, Gerhard G., United States (University of Washington). Accounting Principles Generally Accepted in the United States Versus Those Generally Accepted Elsewhere [accounting theory]. *The International Journal of Accounting*. 1968 Mar; 3(2): 91-103.
Methodology: theoretical.
Empirical evaluation of the complexities of accounting principles followed in several countries.

502. Mueller, Gerhard G., none (University of Washington). An International View of Accounting and Disclosure [public accounting]. *The International Journal of Accounting*. 1972 Sep; 8(1): 117-134.
Methodology: theoretical.
Discussion of an international trend toward increased financial disclosure that has developed since the mid-1960s. Holds that disclosure improvements offer more hope for financial reporting than accounting development during the 1970s.

503. Mueller, Gerhard G., United States (University of Washington). St. Louis to Munich: The Odyssey of the International Congresses of Accountants [financial accounting and reporting]. *The International Journal of Accounting*. 1979 Sep; 15(1): 1-12.
Methodology: deductive descriptive.
History of the International Congress of Accountants listing the major topics of each congress. Concludes that the congress has been instrumental in bringing together international accounting principles and methods of disclosure.

504. Mugan, Can Simga, United States (Bilkent University, Ankara, Turkey). Exploring the Effect of Non-Financial Indicators on Returrn on Investment in Multinational Companies [managerial accounting]. *The International Journal of Accounting*. 1992; 27(2): 123-136.
Methodology: empirical statistical.
Introduction and explanation of a performance evaluation model for analyzing correlation of investment (ROI) and nonfinancial indicators of performance on multinational companies in the United States and abroad.

505. Muller, Welf, Europe (Klynveld Main Goerdeler/Johann-Wolfgang-Goethe Univesitat, Germany). Eighth Council Directive on the Approval of Persons Responsible for Statutory Audits of Accounting Documents [financial accounting and reporting]. The Recent Accounting and Economic Developments in Western Europe. Champaign, IL: Center for International Education and Research in Accounting; 1985 May: 15-30.
Methodology: deductive descriptive.
Discussion of the effects that the eighth directive will have on the European Economic Community and international auditing.

506. Murphy, George J., Canada/United States/United Kingdom (University of Saskatchewan, Canada). Financial Statement Disclosure and Corporate Law:

The Canadian Experience [public accounting]. *The International Journal of Accounting*. 1980 Mar; 15(2): 87-99.
Methodology: historical.
History of financial statement disclosure in Canada starting in 1877 comparing the forces currently affecting disclosure in the U.K., U.S., and Canada. Concludes that the Canadian situation is different than that in the U.K. and the U.S. because the Canadian Institute's recommendations have been passed as legislation.

507. Murphy, George J.; Fizzell, M. R.; Lindsay, W. D., Canada/United States (University of Saskatchewan, Canada//University of Saskatchewan, Canada// University of Saskatchewan, Canada). Revaluation of Assets in Canada, 1920-36 [financial accounting and reporting]. *The International Journal of Accounting*. 1988 Mar; 23(2): 33-45.
Methodology: empirical statistical.
Study of Canadian corporations regarding their revaluation of assets from 1920 to 1936. Finds that these revaluations were infrequent and were not undertaken to increase earnings or equity.

508. Nair, R. D.; Frank, Werner G., United States/Europe/Central & South America (University of Wisconsin at Madison//University of Wisconsin at Madison). The Harmonization of International Accounting Standards, 1973-1979 [financial accounting and reporting]. *The International Journal of Accounting*. 1981 Sep; 17(1): 61-77.
Methodology: empirical descriptive.
Survey of the international accounting practices used by 37 countries. Concludes that since the inception of the international accounting standards commission a growing acceptance of international standards has occurred.

509. Nakajima, Seigo, Japan (International Christian University, Japan). Economic Growth and Corporate Financial Reporting in Japan [public accounting]. *The International Journal of Accounting*. 1973 Sep; 9(1): 35-41.
Methodology: deductive descriptive.
Discussion of the development of accounting in Japan, corporate financial reporting in Japan, and of the economic growth in Japan during the sixties.

510. Nakano, Isao, none (Kobe University, Japan). On Monetary-Sacrifice-Based Depreciation [accounting theory]. *The International Journal of Accounting*. 1978 Mar; 13(2): 41-55.
Methodology: theoretical.
Presentation of a model for monetary-sacrifice-based depreciation. Presents arguments that this method is technically and theoretically more valid, and generally more useful, than current depreciation techniques.

511. Nance, Jon R.; Roemmich, Roger A., United States/West Germany/United Kingdom (University of Nebraska//University of Georgia). Financial Statement Impact of Foreign Currency Translation Alternatives [financial accounting and reporting]. *The International Journal of Accounting*. 1983 Sep; 19(1): 89-113.
Methodology: empirical statistical.
Study of different translation methods as to their effect on the financial statements.

512. Nance, Jon R.; Roemmich, Roger A., global (University of Nebraska//University of Georgia). Foreign Currency Translation: An Evaluation [financial accounting and reporting]. *The International Journal of Accounting*. 1983 Mar; 18(2): 29-48.
Methodology: deductive descriptive.
Evaluation of different currency translation methodologies.

513. Narayanaswamy, R., India (Indian Institute of Management, Bangalore, India). Accounting for Leases in India: Some Evidence of Economic Impact [financial accounting & reporting]. *The International Journal of Accounting*. 1992; 27(3): 255-261.
Methodology: empirical descriptive.
Investigation of lease accounting in India, with emphasis given to off-balance sheet financing and capitalization.

514. Nbudzu, Gordian A.; Tsetsekos, George P., United States (Drexel University, Philadephia, Pennsylvania//Drexel University, Philadephia, Pennsylvania). Functional Currency Smoothing and Managerial Incentives: An Empirical Test [financial accounting & reporting]. *The International Journal of Accounting*. 1992; 27(1): 27-37.
Methodology: empirical statistical.
Examination of income smoothing methods that do not require disclosure, with particular emphasis on SFAS No. 52, which allows foreign currency adjustment to be included in earnings.

515. Ndubizu, Gordian A., United Nations (Drexel University, Philadelphia, Pennsylvania). Accounting Disclosure Methods and Economic Development: A Criterion for Globalizing Capital Markets [financial accounting & reporting]. *The International Journal of Accounting*. 1992; 27(2): 151-163.
Methodology: capital markets.
Study determining the relationship between capital markets and accounting disclosure methods and their influences on economic development.

516. Ndubizu, Gordian A., developed countries/third world countries (North Texas State University). Accounting Standards and Economic Development: The Third World in Perspective [economics and development]. *The International Journal of Accounting*. 1984 Mar; 19(2): 181-196.
Methodology: theoretical.
Examination of the effect that accounting standards have on economic development. Concludes that the current situation adversely affects the third world countries.

517. Ndubizu, Gordian A., United States (Drexel University). Management Preferences for Foreign Currency Standards: An Empirical Analysis [managerial accounting]. *The International Journal of Accounting*. 1987 Mar; 22(2): 115-130.
Methodology: empirical descriptive.
Study of financial controllers and managers of multinational corporations regarding their early adoption of SFAS No. 52. Determined that the standard-setting process was political and that early adoption depended on favorable effects on earnings.

518. Needles, Jr Belverd E., Hong Kong/Indonesia/Japan/Malaysia/Philippines/Singapore/South Korea/Taiwan/Thailand (DePaul University). Auditing Standards in the Far East: An Overview [auditing]. Recent Accounting and Economic Developments in the Far East. Champaign, IL: Center for International Education and Research in Accounting; 1988 May: 65-95.
Methodology: empirical descriptive.
Study of the various standards and qualifications necessary to be an auditor in the Far East. Survey questions included issues affecting the auditor, independence, attestation, and reports.

519. Needles, Jr Belverd E.; Powers, Marian; Revsine, Lawrence, France/Germany/the Netherlands/Sweden/Switzerland/United Kingdom (DePaul University//University of Illinois at Chicago//Northwestern University). Financial Disclosures and Institutional Characteristics: Pension Reporting Differences Across Six Countries [financial accounting & reporting]. *The International Journal of Accounting*. 1991; 26(3): 190-205.
Methodology: empirical descriptive.
Analysis of pension and retirement benefits reporting and disclosure practices of six European countries.

520. Needles, Jr Belverd E., none (University of Illinois at Urbana-Champaign). Implementing a Framework for the International Transfer of Accounting Technology [financial accounting and reporting]. *The International Journal of Accounting*. 1976 Sep; 12(1): 45-62.
Methodology: theoretical.
Proposal for a conceptual framework by which a country may formulate a strategy for the international transfer of accounting technology as a part of its overall economic plan. A three-phase plan is described for the implementation of this framework.

521. Needles, Jr Belverd E., global (DePaul University). International Auditing Research: Current Assessment and Future Direction [auditing]. *The International Journal of Accounting*. 1989; 24(1): 1-20.
Methodology: deductive descriptive.
Discussion of the need for international auditing research. Reviews publications from 1978-1987, discovering that few articles were written then, making suggestions for improvement.

522. Needles, Jr Belverd E., Developing Countries (DePaul University). A Profile, Annotated Bibliography, and Index of Accounting Research on Developing Countries: 1965-1990 [professional development]. *The International Journal of Accounting*. 1995; 30(2): 107-128.
Methodology: deductive descriptive.
Bibliographical compilation involving international accounting research articles concerning developing countries from 1965 to 1990.

523. Needles, Jr Belverd E., The Netherlands/United Kingdom/ Italy/France/Germany/Sweden (DePaul University, Chicago, Illinois). The Regulation of Auditing Standards: An Assessment of Six European Countries [auditing]. The New Europe: Recent Political and Economic Implications for Accountants and

Accounting. Champaign, IL: Center for International Education and Research in Accounting; 1994: 61-96.
Methodology: deductive descriptive.
Identification of the similarities and differences in auditing procedures and standards in six European countries.

524. Needles, Jr Belverd E., Europe (DePaul University). Standards for International Accounting Education: A Consideration of the Issues [accounting education]. Comparative International Accounting Educational Standards. Champaign, IL: Center for International Education and Research in Accounting; 1990 Apr: 1-29.
Methodology: theoretical.
Discussion of the international standards necessary for the education of qualified accountants. Provides a methodology for the analysis and implementation of such standards.

525. Nehrt, Lee C., Tunisia (Indiana University). Evaluating the Political Climate for Private Investment with Special Application to Tunisia [economics and development]. *The International Journal of Accounting*. 1969 Sep; 5(1): 109-122.
Methodology: theoretical.
Study of the terms "investment climate" and "political climate." Evaluates the political climate for private investment and the general applicability of this model.

526. Neuhauser, Lenz, United States (KPMG Peat Marwick). Analyzing Management Information Systems of Multinational Companies: An External Auditor's Viewpoint [information systems]. Managerial Accounting: An Analysis of Current International Application. Champaign, IL: Center for International Education and Research in Accounting; 1984 Jan: 41-51.
Methodology: deductive descriptive.
Discussion of the role of management information systems in international accounting. Suggests that certain elements regarding currency translation, inflation, intercompany pricing, performance criteria, and risk analysis be incorporated in these systems.

527. Neumann, Frederick L., United States (University of Illinois at Urbana-Champaign). Career Education in Accounting in the United States: A Current Appraisal [accounting education]. *The International Journal of Accounting*. 1974 Mar; 9(2): 169-179.
Methodology: theoretical.
Discussion of the trend in accounting toward post-secondary schools, arguing against this trend.

528. Ng, Patrick P. H.; Fung, S. M.; Tai, Benjamin Y. K., Hong Kong (City Polytechnic of Hong Kong//City Polytechnic of Hong Kong//City Polytechnic of Hong Kong). Auditing Firm Reputation and the Underpricing of Initial Public Offerings in Hong Kong: 1989-1991 [auditing]. *The International Journal of Accounting*. 1994; 29(3): 220-233.
Methodology: empirical statistical.

Presentation of the results of empirical tests to determine the relationship between auditing firm reputation and the underpricing of initial public offerings in Hong Kong.

529. Niehus, Rudolph J., Germany (Deloitte & Touche). Generally Accepted Auditing Principles in Germany [auditing]. *The International Journal of Accounting*. 1969 Mar; 4(2): 113-124.
Methodology: deductive descriptive.
Review of the importance and significance of newly adopted auditing rules in Germany.

530. Niehus, Rudolph J., Germany/Europe (Deloitte & Touche). Harmonized European Economic Community Accounting--A German View of the Draft Directive for Uniform Accounting Rules [public accounting]. *The International Journal of Accounting*. 1972 Mar; 7(2): 91-125.
Methodology: deductive descriptive.
Summary of the features of the European Economic Community valuation requirements. Explains the German perspective on the format of financial statements, disclosures, and reporting rules.

531. Niehus, Rudolph J., West Germany/United States (Dr. Wollert-Dr. Elmendorff K.G., Germany). Stock Corporation Law Reform in Germany and the Public Accountant [financial accounting and reporting]. *The International Journal of Accounting*. 1966 Mar; 1(2): 25-41.
Methodology: deductive descriptive.
Summary and explanation of the changes in the Stock Corporation Law of 1965 in West Germany.

532. Ninsuvannakul, Pianchai, Thailand (University of Illinois at Urbana-Champaign). Education for Accountancy in Thailand [accounting education]. *The International Journal of Accounting*. 1966 Sep; 2(1): 77-111.
Methodology: deductive descriptive.
Study of education for accountancy in Thailand which evaluates professional activities pertaining to the training of competent accountants.

533. Ninsuvannakul, Prawit, Indonesia/Malaysia/Philippines/Singapore/Thailand/Brunei (Chulalongkorn University, Thailand/Ministry of Science and Technology, Thailand). The Development of the Accounting Profession of the ASEAN Countries: Past, Present, and Future [professional development]. Recent Accounting and Economic Developments in the Far East. Champaign, IL: Center for International Education and Research in Accounting; 1988 May: 115-148.
Methodology: deductive descriptive.
Study of the history and characteristics of the accounting profession in the ASEAN countries. Concludes that accountants in the ASEAN countries should be more active and up to date with the accounting environment.

534. Nishimura, Akira, Japan (Kyushu University, Fukuoka, Japan). Transplanting Japanese Management Accounting and Cultural Relevance [managerial accounting]. *The International Journal of Accounting*. 1995; 30(4): 318-330.
Methodology: empirical descriptive.

Study of the transfer of Japanese management accounting and cultural techniques to countries abroad.

535. Niskanen, Jyrki; Kinnunen, Juha; Kasanen, Eero, Finland (Helsinki School of Economics, Finland//Helsinki School of Economics, Finland//Helsinki School of Economics, Finland). The Association of Stock Returns with International Accounting Standards Earnings: Evidence from the Finnish Capital Market [economics & development]. *The International Journal of Accounting*. 1994; 29(4): 283-296.
Methodology: capital markets.
Comparative study of the incremental market information of earnings figures based on Finnish accounting rules and those based on IAS' rules.

536. Nissan, Samir; Otaka, Reijun; Kamata, Nobo, Japan (California State University, Chico//Nanzan University, Nagoya, Japan//Nanzan University, Nagoya, Japan). Cash Reporting in Japan [financial accounting & reporting]. *The International Journal of Accounting*. 1995; 30(2): 168-180.
Methodology: deductive descriptive.
Presentation of the format used for the Japanese fund (cash) flow statement and its restatement in accordance with American generally accepted accounting principles.

537. Nobes, C. W., United States/United Kingdom/France/Germany/Netherlands (University of Exeter, England). Harmonization of Accounting within the European Communities: The Fourth Directive on Company Law [financial accounting and reporting]. *The International Journal of Accounting*. 1980 Mar; 15(2): 1-16.
Methodology: deductive descriptive.
Discussion of accounting differences in the European Economic Community. Concludes that the Fourth directive should help to alleviate legal and presentation differences, but that differences in methods of inflation accounting may hinder the directive.

538. Oberrotman, Alain M., United States/United Kingdom/Canada (Deloitte & Touche). Financial Information for Internal Decision Making Under Inflation [managerial accounting]. The Impact of Inflation on Accounting: A Global View. Champaign, IL: Center for International Education and Research in Accounting; 1979 May: 163-178.
Methodology: deductive descriptive.
Description of the policies and strategies used by business administrators in decision making during periods of inflation.

539. Obersteiner, Erich, none (Bucknell University). The Management of Liquid Fund Flows Across National Boundaries [economics and development]. *The International Journal of Accounting*. 1976 Mar; 11(2): 91-101.
Methodology: deductive descriptive.
Discussion of the problems of international fund flows within the constraints of a multinational firm.

540. O'Connor, Walter F., United States (Fordham University). Accounting Education Worldwide from the Perspective of Accounting Practice [accounting education]. Comparative International Accounting Educational Standards.

Champaign, IL: Center for International Education and Research in Accounting; 1990 Apr: 61-70.
Methodology: deductive descriptive.
Discussion of the effect of current developments on accounting education.

541. Ogan, Pekin, Turkey (Indiana University). Turkish Accountancy: An Assessment of Its Effectiveness and Recommendations for Improvement [accounting education]. *The International Journal of Accounting*. 1978 Sep; 14(1): 133-154.
Methodology: deductive descriptive.
Study that finds the accounting profession in Turkey to be inadequate, unregulated, and poorly regarded. Suggests solving these problems through legislation and the development of a professional organization of accountants.

542. Ogundele, Babatunde, Nigeria (University of Illinois at Urbana-Champaign). The Accounting Profession in Nigeria: An International Perspective [financial accounting and reporting]. *The International Journal of Accounting*. 1969 Sep; 5(1): 101-106.
Methodology: deductive descriptive.
Review of the accounting profession in Nigeria.

543. Ohno, Kimiyoshi; Ichikawa, Hideo; Kodama, Atsuyoshi, Japan (Oita University, Japan//Aichi-Gakuin University, Japan//Aichi University of Education, Japan). Recent Changes in Accounting Standards in Japan [financial accounting and reporting]. *The International Journal of Accounting*. 1975 Sep; 11(1): 107-120.
Methodology: theoretical.
Discussion of the problems brought on by the amendment of BAP's. Covers the background of the reconciliation between the BAP's and the commercial code and changes in the accounting method for allowances, and in the form of financial statements.

544. Okike, Elewechi N. M., Nigeria (University of Exeter, United Kingdom). Curious Auditing Regulations in Nigeria: A Case Study of Cultural/Political Influences of Auditing Practice [auditing]. *The International Journal of Accounting*. 1994; 29(1): 78-91.
Methodology: deductive descriptive.
Study of Nigeria's auditing profession and the various influences effecting it. Factors discussed include the political, cultural, and institutional influences.

545. Okopny, Robert D.; Strawser, Robert H., United States (Eastern Michigan University//Texas A & M University). International Internal Audit Planning [auditing]. *The International Journal of Accounting*. 1989; 24(4): 308-319.
Methodology: empirical descriptive.
Study of four factors that affect the planning decisions of international internal auditors: scope, external environment, communication, and working and social environments.

546. Olbert, Lars, Sweden (University of Lund, Sweden). Stock Valuation Methods of Financial Analysts in a Thin Stock Market in Sweden, with Comparisons to the United Kingdom and the United States [financial accounting & reporting]. *The International Journal of Accounting*. 1994; 29(2): 123-135.
Methodology: empirical descriptive.

A study which is an application of previous research of U.S. and British financial analysts' methods of security valuation to Sweden's stock market. Results indicate that Swedish analysts do not use technical analysis (past price history) as frequently as American and British analysts.

547. Ooghe, Hubert; Joos, Peter; De Bourdeaudhuij, Carl, Belguim (University of Ghent, Belguim//Stanford University//University of Ghent, Belguim). Financial Distress Models in Belguim: The Results of a Decade of Empirical Research [economics & development]. *The International Journal of Accounting*. 1995; 30(3): 245-274.
Methodology: empirical statistical.
Presentation of a ten-year study of financial accounting distress models used in analyzing Belgian companies.

548. Ooghe, Hubert; Verbaere, Eric, Belgium (State University of Ghent, Belgium// State University of Ghent, Belgium). Predicting Business Failure on the Basis of Accounting Data: The Belgian Experience [economics and development]. *The International Journal of Accounting*. 1985 Mar; 20(2): 19-44.
Methodology: empirical statistical.
Study of the predictive value of financial information to determine bankruptcy in Belgium.

549. Oppong, Andrews, Zimbabwe (Dalhousie University, Halifax, Nova Scotia). Price-Earnings Approach and Emerging Capital Market: The Case of Zimbabwe [economics & development]. *The International Journal of Accounting*. 1993; 28(1): 71-77.
Methodology: capital markets.
Analysis of price-earnings accounting in the Zimbabwe Stock Exchange. Results presented in this article emphasize the need for further research in emerging capital markets in developing countries.

550. Osiegbu, Patrick I., Nigeria (University of Port Harcourt, Nigeria). The State of Accounting Education in Nigeria [accounting education]. *The International Journal of Accounting*. 1987 Mar; 22(2): 57-68.
Methodology: deductive descriptive.
Description of the history, educational requirements, and the professional requirements affecting the Nigerian accounting profession.

551. Park, Soong Hyun, Korea/United States (National University of Singapore, Singapore). Competition, Independence and Audit Quality: The Korean Experience [auditing]. *The International Journal of Accounting*. 1990; 25(2): 71-86.
Methodology: empirical statistical.
Study of the audit opinions of Korean firms during a six-year period, regarding the effects of competition on such opinions. Discusses the implications for the international community as well.

552. Park, Soong Hyun, Korea/United States (Rutgers University-The State University of New Jersey at Newark). The Use of Foreign Financial Statements for Risk Analysis: An Empirical Test (Korea) [financial accounting and reporting]. *The International Journal of Accounting*. 1984 Sep; 20(1): 1-15.
Methodology: empirical statistical.

Study of the difference between the information contained in U.S. and in Korean financial statements.

553. Parker, L. D., United States/United Kingdom/New Zealand (Monash University, Australia). Corporate Annual Reports: A Failure to Communicate [public accounting]. *The International Journal of Accounting*. 1981 Mar; 16(2): 35-48.
Methodology: empirical descriptive.
Study of the level of disclosure in corporate reporting. Finds that reports are too complex for the average investor and concludes that the profession must address the situation.

554. Pasewark, William R.; Heagy, Cynthia D.; Godfrey, James T., United States/Japan/Europe (University of Georgia//University of Georgia//George Mason University). Impact of Socially Motivated Quality Cost Control Policies on Cost Behavior [managerial accounting]. *The International Journal of Accounting*. 1988 Mar; 23(2): 71-83.
Methodology: modeling.
Presentation of a model for quality cost measurement. Discusses the social factors and possible constraints to implementing such a model.

555. Pavlock, Ernest J., United States (Deloitte & Touche). Training Accountants for the Future [accounting education]. *The International Journal of Accounting*. 1977 Sep; 13(1): 141-158.
Methodology: deductive descriptive.
List of the current educational and continuing education requirements of the profession. Concludes that future accountants must be ready to cope with change.

556. Peche, Tadeusz, none (Central School of Planning and Statistics, Poland). Instructional Problems in the Modernization of Accounting Theory [accounting education]. *The International Journal of Accounting*. 1978 Mar; 13(2): 87-104.
Methodology: theoretical.
Presentation of the financial accounting theory using the matrix approach.

557. Pena, Pablo A., Colombia/United States (University of Bogota). Special Report: A Comparison of the Accounting Profession of Colombia and the United States [financial accounting and reporting]. *The International Journal of Accounting*. 1976 Mar; 11(2): 143-177.
Methodology: deductive descriptive.
Study of Columbian accounting developments after 1956, including a review of the country's historical, geographical, and governmental facts.

558. Pendlebury, Maurice; Jones, Rowan, United States/United Kingdom (University of Wales Institute of Science and Technology//University of Birmingham, England). Municipal Disclosure in England: Another Market for Excuses? [governmental]. *The International Journal of Accounting*. 1983 Mar; 18(2): 83-93.
Methodology: empirical descriptive.
Survey of municipalities disclosure in the U.K. Holds that this disclosure is controlled by special interest groups.

559. Pendrill, David, New Zealand/United Kingdom/United States (University College, Cardiff). Contrasting Income Treatment of Monetary Items in Recent Account-

ing Standards in New Zealand, the United Kingdom, and the United States [accounting theory]. *The International Journal of Accounting.* 1985 Mar; 20(2): 139-154.
Methodology: theoretical.
Study of the effects of price-level accounting on financial statements in New Zealand, the U.K., and the U.S.

560. Perera, M. H. B., United States/European Economic Community/Germany/France/ United Kingdom/Netherlands/global (Massey University, New Zealand). Towards a Framework to Analyze the Impact of Culture on Accounting [social effects of accounting]. *The International Journal of Accounting.* 1989; 24(1): 42-56.
Methodology: theoretical.
Discussion of the effect that culture has on accounting and international standards.

561. Piper, Andrew G., United Kingdom (University of Birmingham, England). Accounting for Overseas Currencies [accounting theory]. *The International Journal of Accounting.* 1976 Sep; 12(1): 63-90.
Methodology: deductive descriptive.
Discussion of accounting for overseas currency translations, using examples from the published accounts of companies with registered offices in the U.K. .

562. Piper, Andrew G., United Kingdom/United States/Canada (University of Birmingham, England). A Methodology on Translation for Interim Accounts [accounting theory]. *The International Journal of Accounting.* 1979 Sep; 15(1): 45-52.
Methodology: theoretical.
Study of the Unilever Corporation's practice of disclosure for changing currency rates, citing this as a model for disclosing exchange rates.

563. Polimeni, Ralph S., United States (Hofstra University). Accounting for Forward Exchange Contracts [accounting theory]. *The International Journal of Accounting.* 1977 Sep; 13(1): 159-168.
Methodology: theoretical.
Presentation of techniques for dealing with currency futures.

564. Pomeranz, Felix, none (Coopers & Lybrand). International Auditing Standards [auditing]. *The International Journal of Accounting.* 1975 Sep; 11(1): 1-13.
Methodology: theoretical.
Perspective on recent developments in international auditing. Discusses audit procedures relating to inventory, accounts receivable, and reporting standards. Uses case study drawn from Coopers & Lybrand's experience in developing an international practice. .

565. Pomeranz, Felix, United States/European Economic Community (Coopers & Lybrand). Prospects for International Accounting and Auditing Standards—The Transnationals in Governmental Regulations [financial accounting and reporting]. *The International Journal of Accounting.* 1981 Sep; 17(1): 7-19.
Methodology: deductive descriptive.

Discussion of three organizations having an effect on the development of international standards: the Organization for Economic Cooperation and Development, the European Economic Community, and the United Nations.

566. Pomeranz, Felix, United States/United Kingdom/South Africa/France/Brazil/Germany/Holland/Netherlands (Coopers & Lybrand). Reporting the Effects of Inflation: An Accountant's View [financial accounting and reporting]. The Impact of Inflation on Accounting: A Global View. Champaign, IL: Center for International Education and Research in Accounting; 1979 May: 149-161.
Methodology: deductive descriptive.
Description of the practices and options available to the accountant when reporting for inflation. Gives a description of foreign practices in this area.

567. Pomeranz, Felix; Haqiqi, Abdul Wassay, Kuwait (Coopers & Lybrand//Mutual Life of America). The Collapse of the Souk al-Manakh: A Chronicle [economics and development]. The Recent Accounting and Economic Developments in the Middle East. Champaign, IL: Center for International Education and Research in Accounting; 1985 May: 151-166.
Methodology: deductive descriptive.
Discussion of the social and governmental consequences of the failure of the stock exchange in Kuwait.

568. Popoff, Boris, New Zealand (University of Otago, New Zealand). The Price Level Adjustment and Accounting Realism: A Case Study of a New Zealand Company [accounting theory]. *The International Journal of Accounting*. 1971 Mar; 6(2): 15-35.
Methodology: empirical descriptive.
Study of price-level adjustment as against more traditional accounting methods based on unadjusted historic cost. Contends that the price-level adjustment may produce misleading results on the operating statement, and that some problems in the production of reliable company reports do not arise from changing prices.

569. Popoff, Boris, New Zealand/United Kingdom (University of Otago, New Zealand). Some Conceptualizing on the True and Fair View [accounting theory]. *The International Journal of Accounting*. 1983 Sep; 19(1): 43-54.
Methodology: theoretical.
Theoretical discussion of the concept of a true and fair view, as it pertains to financial accounting. Discusses problems and advantages of the concept.

570. Porcano, Thomas M., Europe (Miami University, Ohio). The Perceived Efficacy of Government Incentives: A Comparative Study of Seven European Community Countries [governmental]. *The International Journal of Accounting*. 1986 Sep; 22(1): 135-157.
Methodology: empirical descriptive.
Survey of large corporations in Europe as to the effects of government supply-side manipulation.

571. Pound, G. D.; Pollard, B. M., United States/United Kingdom/Australia (University of New England, Australia//University of New England, Australia). Accounting Theory and History—Lessons to be Learned [accounting history]. *The International Journal of Accounting*. 1981 Mar; 16(2): 99-123.
Methodology: historical.

Historical account of the development of accounting standards and theory in the U.S., U.K., and Australia. Concludes that the theoretical approach to standard setting has been proven by history.

572. Powelson, John P., Central & South America (University of Colorado). National Income Estimates in Latin America [public accounting]. *The International Journal of Accounting*. 1967 Sep; 3(1): 55-65.
Methodology: deductive descriptive.
Review of the systems of national accounts in Latin America, highlighting progress and problems in these systems.

573. Pratt, Jamie; Behr, Giorgio, Switzerland/United States (University of Washington// international consultant). Environmental Factors, Translation Costs, and External Reporting: A Cross-National Comparison [financial accounting and reporting]. *The International Journal of Accounting*. 1987 Mar; 22(2): 1-24.
Methodology: theoretical.
Comparison of the market factors in Switzerland and the U.S. that drive standard-setting.

574. Previts, Gary John, United States (Case Western Reserve University). A Centennial Sketch of Accountancy Education in the United States [accounting history]. Comparative International Accounting Educational Standards. Champaign, IL: Center for International Education and Research in Accounting; 1990 Apr: 31-40.
Methodology: historical.
Description of the history of accounting in the United States. Concludes that more attention must be paid to culture in the U.S. educational system.

575. Previts, Gary John, none (University of Alabama). On the Subject of Methodology and Models for International Accountancy [accounting theory]. *The International Journal of Accounting*. 1975 Mar; 10(2): 1-12.
Methodology: theoretical.
Study of a methodology for reviewing and synthesizing global accounting developments, considering the international relationships which have arisen during the 20th century. Emphasizes developments in American accountancy during this era.

576. Purcell, Thomas J. III; Scott, James P., European Economic Community (Creighton University//Creighton University). An Analysis of the Feasibility of Harmonizing Financial Reporting Practices Between Member Countries of the EEC and the OECD [financial accounting and reporting]. *The International Journal of Accounting*. 1986 Mar; 21(2): 109-131.
Methodology: empirical statistical.
Study that groups the OECD and EEC countries by accounting and disclosure practices.

577. Queenan, John W., United States/United Kingdom (Deloitte & Touche). Challenges in International Auditing [economics and development]. *The International Journal of Accounting*. 1965 Sep; 1(1): 43-51.
Methodology: deductive descriptive.
Explanation of the problems facing U.S. and British auditors practicing in a foreign country.

578. Qureshi, Mahmood A., Pakistan (DePaul University). Private Enterprise Accounting and Economic Development in Pakistan [economics and development]. *The International Journal of Accounting*. 1974 Mar; 9(2): 125-141.
Methodology: empirical descriptive.
Study of the potential of private enterprise accounting as a tool in the development of an emerging economy such as Pakistan. Discusses capital formation, foreign investment, and management capability.

579. Radebaugh, Lee H., Peru (Pennsylvania State University). Environmental Factors Influencing the Development of Accounting Objectives, Standards, and Practices in Peru [financial accounting and reporting]. *The International Journal of Accounting*. 1975 Sep; 11(1): 39-56.
Methodology: theoretical.
Discussion of the major environmental factors that influence the development of accounting objectives, standards, and practices. Cites current developments in Peru as an example.

580. Radebaugh, Lee H., United States (Brigham Young University). The Impact of a Strengthening Dollar, Weak World Economy, and New Accounting Standard on Performance Evaluation of Foreign Operations [managerial accounting]. Managerial Accounting: An Analysis of Current International Application. Champaign, IL: Center for International Education and Research in Accounting; 1984 Jan: 53-70.
Methodology: theoretical.
Discussion of the effects that exchange rates, economic growth, strength of the dollar, and FASB 52 have had on the earnings of foreign operations.

581. Radebaugh, Lee H., United States (Pennsylvania State University). International Corporate Bribery: A New Dimension In Accounting [social effects of accounting]. The Multinational Corporation: Accounting and Social Implications. Champaign, IL: Center for International Education and Research in Accounting; 1977 Jan: 21-39.
Methodology: deductive descriptive.
Study of the causes for bribery, explaining the role of government in regards to it.

582. Radebaugh, Lee H., United States (Pennsylvania State University). The International Dimension of the Financial Accounting Standards Board: Translation and Disclosure of Foreign Operations [financial accounting and reporting]. *The International Journal of Accounting*. 1974 Sep; 10(1): 55-70.
Methodology: theoretical.
Discussion of the translation of foreign currency into parent currency for consolidation with domestic operations, and on the disclosure of translation-related information.

583. Radebaugh, Lee H.; Krylova, Tatiana B.; Rahman, Zubaidur, Russia (Brigham Young University//Moscow State University//State University of New York-Plattsburgh). The Evolution of Accounting in the Former Soviet Union: Historical Perspectives and Global Influences [accounting history]. The New Europe: Recent Political and Economic Implications for Accountants and

Accounting. Champaign, IL: Center for International Education and Research in Accounting; 1994: 131-148.
Methodology: historical.
Historical overview of the evolution of the accounting system of Russia, from the reign of Tsar Peter the Great to the present.

584. Rahman, A. R.; Perera, M. H. B.; Tower, G. D., Australia/New Zealand (Massey University, Palmerston North, New Zealand//Murdoch University, Perth, Australia). Accounting Harmonization Between Australia and New Zealand: Towards a Regulatory Union [miscellaneous]. *The International Journal of Accounting*. 1994; 29(4): 316-333.
Methodology: deductive descriptive.
Discussion of the degree of accounting harmonization in New Zealand and Australia and ways to further harmonize both countries' accounting systems.

585. Rahman, M. Zubaidur, United Kingdom/Bangladesh/United States (State University of New York at Plattsburgh). The Local Value Added Statement: A Reporting Requirement for Multinationals in Developing Host Countries [financial accounting and reporting]. *The International Journal of Accounting*. 1990; 25(2): 87-98.
Methodology: theoretical.
Study of the uses and benefits of the local value added statement.

586. Rappaccioli, Donna; Schiff, Allen, Unknown (Fordham University, New York, New York//Fordham University, New York, New York). An Enhancement to IAS 8: "Unusual and Prior Period Items and Changes in Accounting Policies" [financial accounting & reporting]. *The International Journal of Accounting*. 1993; 28(1): 40-48.
Methodology: empirical statistical.
Examination of the deficiencies regarding the presentation of gain and loss in the income statement in accordance with International Accounting Standards (IAS) 8 and 14. This study recommends a modification of IAS 8 to include a materiality threshold to improve the quality of income statements issued by members of the IASC.

587. Ray, Manash R.; Gupta, Parveen P., United States (Lehigh University, Bethlehem, Pennsylvania//Lehigh University, Bethlehem, Pennsylvania). International Accounting Practices and Transaction Cost Theory: An Extended Framework [accounting theory]. *The International Journal of Accounting*. 1993; 28(3): 187-205.
Methodology: theoretical.
Study of transaction cost theory involving the measurement and analysis of the degrees of specificity and compliance of some 30 countries. Cultural variables and possible areas of future research are discussed.

588. Raymond, Robert H.; Iqbal, M. Zafar; Schafer, Eldon L., United States/United Kingdom/New Zealand (University of Nebraska//California Polytechnic State University//Pacific Lutheran University). The Gearing (Leverage) Adjustment: A Historical and Comparative Analysis [managerial accounting]. *The International Journal of Accounting*. 1982 Sep; 18(1): 139-157.
Methodology: theoretical.

Study of the arguments for and against the use of a gearing leverage adjustment in financial reporting.

589. Razasee, Zabihollah; Lee, John T., United States (Middle Tennessee State University//Middle Tennessee State University). Market Value Accounting Standards in the United States and Their Significance for the Global Banking Industry [financial accounting & reporting]. *The International Journal of Accounting.* 1995; 30(3): 208-221.
Methodology: empirical descriptive.
Discussion of the necessity to move toward market value accounting from historical cost accounting in order to provide relevant and reliable financial reporting by banking institutions.

590. Rege, Udayan P.; Brennan, W. John; Silvester, W. Harold, United Kingdom/European Economic Community/United States/Canada (University of Saskatchewan//University of Saskatchewan//University of Saskatchewan). Current Regulatory Practices, Corporate Financial Forecasting, and Takeover Bids [governmental]. *The International Journal of Accounting.* 1983 Mar; 18(2): 171-175.
Methodology: deductive descriptive.
Discussion of the current regulations regarding takeover bids in the U.K., U.S., European Economic Community, and Canada.

591. Reinstein, Alan; Spalding, Albert D., United States (Wayne State University, Detroit, Michigan//Wayne State University, Detroit, Michigan). Accounting and Auditing Implications of Complying with the United States' Foreign Corrupt Practices Act Amendments of 1988 [auditing]. *The International Journal of Accounting.* 1991; 26(1): 18-26.
Methodology: deductive descriptive.
Comparison of 1977 and 1988 Foreign Corrupt Practices Act. The 1988 amendments give U.S. corporations both an opportunity to engage in foreign commerce and a challenge to develop internal policies.

592. Rezaee, Zabihollah, United States (Middle Tennessee State University). The Impact of New Accounting Rules on the Consolidation of Financial Statements of Multinational Companies [financial accounting & reporting]. *The International Journal of Accounting.* 1991; 26(3): 206-219.
Methodology: empirical descriptive.
Evaluation of the influence SFAS No. 94 has had on the consolidated financial statements reported by multinational companies.

593. Riahi-Belkaoui, Ahmed; Picur, Ronald D., Canada/United States/Great Britain (University of Illinois at Chicago//University of Illinois at Chicago). Cultural Determinism and the Perception of Accounting Concepts [accounting theory]. *The International Journal of Accounting.* 1991; 26(2): 118-130.
Methodology: empirical statistical.
By using multidimensional scaling techniques, demonstrates that different cultural groups have different interpretations of accounting concepts and will have communication problems.

594. Riahi-Belkaoui, Ahmed, United States (University of Illinois at Chicago, Illinois). The Information Content of Value Added, Earnings, and Cash Flow: US Evi-

dence [accounting theory]. *The International Journal of Accounting.* 1993; 28(2): 140-146.

Methodology: theoretical.

Examination of earnings, cash flows, and value added as related to adequate disclosures in American corporate reports.

595. Richards, William R., United States (Coopers & Lybrand). Auditing U.S. Companies With Operations Abroad [auditing]. *The International Journal of Accounting.* 1976 Sep; 12(1): 1-11.

Methodology: theoretical.

Study of the effect of the establishment of operating subsidiaries abroad by U.S. corporations on the auditing of large multinational companies based in the U.S. Holds that the responsibilities of the auditors of U.S. multinational corporations have been poorly defined.

596. Riise, Arne, Norway/United States/United Kingdom (The Norwegian School of Economics and Business Administration). Norwegian Standards for Annual Reporting Requirements and Chart of Accounts [financial accounting and reporting]. *The International Journal of Accounting.* 1982 Mar; 17(2): 103-120.

Methodology: deductive descriptive.

Discussion of the political, social, and international factors influencing the Norwegian accounting system.

597. Rinke, Dolores, European Community (Purdue University, Calumet, Indiana). Comparative Analysis of the Credentialing Processes of Professional Public Accountants in the European Community [public accounting]. The New Europe: Recent Political and Economic Implications for Accountants and Accounting. Champaign, IL: Center for International Education and Research in Accounting; 1994: 97-130.

Methodology: deductive descriptive.

Comparative examination of the requisite credentials for public accountants in the European Community.

598. Rivera, Juan M., Spain (University of Notre Dame). The Accounting Profession in Spain: Apartheid or Isolationism on the European Continent [financial accounting and reporting]. The Recent Accounting and Economic Developments in Western Europe. Champaign, IL: Center for International Education and Research in Accounting; 1985 May: 129-142.

Methodology: deductive descriptive.

Discussion of the history and economic environment responsible for current accounting practices in Spain.

599. Rivera, Juan M., Panama/United States (University of Notre Dame). The Accounting Profession and Accounting Education in Panama: A Survey [accounting education]. Comparative International Accounting Educational Standards. Champaign, IL: Center for International Education and Research in Accounting; 1990 Apr: 175-192.

Methodology: empirical descriptive.

Study of current needs in the Panamanian accounting educational system. Also discusses the effect the U.S. system has had on Panama.

600. Rivera, Juan M., United States/Venezuela (California State University at Northridge). The Financial Function of a U.S. Multinational Company Abroad--A Venezuelan Experience [managerial accounting]. *The International Journal of Accounting*. 1982 Sep; 18(1): 129-138.
Methodology: deductive descriptive.
Discussion of the factors affecting a U.S. firm with affiliates in Venezuela or abroad.

601. Rivera, Juan M., United States/European Economic Community (University of Notre Dame). The Internationalization of Accounting Standards: Past Problems and Current Prospects [financial accounting and reporting]. *The International Journal of Accounting*. 1989; 24(4): 320-341
Methodology: deductive descriptive.
Discussion of the factors that have undermined the acceptance of international accounting standards. Calls for recognition of individual needs rather than the needs of a few large countries.

602. Rivera, Juan M., Central & South America (Instituta Technologico y de Estudios Superiores de Monterey). Latin American Accounting--A General Perspective [financial accounting and reporting]. *The International Journal of Accounting*. 1969 Sep; 5(1): 107-108.
Methodology: deductive descriptive.
Study of the major problems in accounting in Latin America.

603. Rivera, Juan M.; Salva, Antonio Socias, Spain/European Union (University of Notre Dame, Indiana//Universitate de les Illes Balears, Spain). The Recent Economic Developments in Spain and the Implementation of EU Directives on Accounting [accounting history]. The New Europe: Recent Political and Economic Implications for Accountants and Accounting. Champaign, IL: Center for International Education and Research in Accounting; 1994: 149-170.
Methodology: historical.
Overview of the development of the accounting in Spain and its consequential implementation of accounting-related directives of the European Union.

604. Rivola-Clay, Anna Maria; Doupnik, Timothy S., Italy/European Economic Community (University of South Carolina//University of South Carolina). The Progress of Italian Accounting: *Allegro Ma Nontroppo* [financial accounting and reporting]. *The International Journal of Accounting*. 1987 Mar; 22(2): 87-102.
Methodology: deductive descriptive.
Discussion of the social, environmental, and legal influences on the Italian accounting system.

605. Robb, A. J., New Zealand (University of Canterbury, New Zealand). Interim Reports and Their Qualitative Evaluation [financial accounting and reporting]. *The International Journal of Accounting*. 1980 Mar; 15(2): 77-86.
Methodology: empirical statistical.
Study of the interim reports of forty New Zealand companies. Indicates a wide variety of reporting levels, with the highest levels taken by the industrial and service related firms.

606. Rohleder, Robert P., United States (Deloitte & Touche, Chicago). Ethics, the Practice of International Accounting and Auditing, and New Influences in the Marketplace [social effects]. Ethical Considerations in Contemporary International Accounting Practice. Champaign, IL: Center for International Education and Research in Accounting, Department of Accountancy; 1992: 11-18.
Methodology: deductive descriptive.
Article addressing societal issues involving the practice of ethics in the public accounting profession.

607. Rosenfield, Paul, none (American Institute of Certified Public Accountants). Accounting for Foreign Branches and Subsidiaries [accounting theory]. *The International Journal of Accounting*. 1972 Mar; 7(2): 35-44.
Methodology: theoretical.
Discussion of the conceptual issues common to both the translation and the restatement of foreign balances for general price-level changes.

608. Rueschhoff, Norlin G., Europe (University of Notre Dame). European Accounting and Auditing Standards: A Comparative Study with International Standards and Guidelines [financial accounting and reporting]. The Recent Accounting and Economic Developments in Western Europe. Champaign, IL: Center for International Education and Research in Accounting; 1985 May: 91-114.
Methodology: deductive descriptive.
Discussion of the major European standard-setting bodies and their effects on accounting principles, disclosures, auditing practices, ethics, and education.

609. Rueschhoff, Norlin G., United States (University of Notre Dame). International Accounting and Auditing in the U.S. CPA Examination, 1917-86 [professional development]. *The International Journal of Accounting*. 1986 Sep; 22(1): 25-31.
Methodology: theoretical.
Study of the U.S. uniform CPA exam calling for greater emphasis on international issues.

610. Rueschhoff, Norlin G., Canada/United States (University of Notre Dame). U.S. Dollar Based Financial Reporting of Canadian Multinational Corporations [public accounting]. *The International Journal of Accounting*. 1973 Mar; 8(2): 103-109.
Methodology: empirical descriptive.
Review of the factors causing the Canadian Multinational Corporation to use the U.S. dollar as a basis for financial reporting.

611. Ruffing, Lorraine, United Nations/Eastern Europe/former USSR (United Nations Intergovernmental Working Group of Experts on International Standards of Accounting and Reporting). United Nations Activities in International Accounting in Eastern Europe and the USSR [financial accounting & reporting]. The New Europe: Recent Political and Economic Implications for Accountants and Accounting. Champaign, IL: Center for International Education and Research in Accounting; 1994: 43-60.
Methodology: deductive descriptive.

Study of work the United Nations has accomplished in Eastern Europe and the former USSR to bring those countries' accounting systems in harmony with those of the West.

612. Ruggles, Richard; Ruggles, Nancy, none (Yale University//International Association for Research on Income and Wealth). The Evolution and Present State of National Economic Accounting [accounting theory]. *The International Journal of Accounting*. 1968 Sep; 4(1): 1-16.
Methodology: deductive descriptive.
Study of national economic accounting systems, focusing on the extent to which these systems meet current and anticipated needs for economic information.

613. Rushinek, Avi; Rushinek, Sara F., Belgium/France/Germany/Italy/Netherlands/United States (University of Miami//University of Miami). Additional Fund Allocation Constraints for Common Stock Investments: An Empirical Analysis of Regional Portfolios in the Common Market and the United States [financial accounting and reporting]. *The International Journal of Accounting*. 1986 Mar: 21(2): 69-89.
Methodology: empirical statistical.
Study of inter country redundancy regarding portfolio management.

614. Rushinek, Avi; Rushinek, Sara F., United States/United Kingdom (University of Miami//University of Miami). Multinational Transfer-Pricing Factors: Tax, Custom Duties, Antitrust/Dumping Legislation, Inflation, Interest, Competition, Profit/Dividend, and Financial Reporting [financial accounting and reporting]. *The International Journal of Accounting*. 1988 Mar; 23(2): 95-111.
Methodology: empirical descriptive.
Study of multinational corporations regarding factors that influence their transfer-pricing policies.

615. Ruth, John J., United States, Japan, Great Britain (Goldberg Securities, Inc.). Recent Changes in International Financial Markets [economics & development]. Changing International Financial Markets and Their Impact on Accounting. Champaign, IL: Center for International Education and Research in Accounting, Department of Accountancy; 1992: 17-30.
Methodology: capital markets.
Discussion of the changes in international capital markets and various proposals to aid in the area of financial disclosure and reporting.

616. Sabri, Nidal R.; Jabr, M. Hisham, Middle East (Birzeit University, Palestine//An-najah University, Palestine). Business and Accounting Ethics in Islam: Theory and Practice [social effects]. Ethical Considerations in Contemporary International Accounting Practice. Champaign, IL: Center for International Education and Research in Accounting, Department of Accountancy; 1992: 49-64.
Methodology: deductive descriptive.
Analysis of the relationship between business accounting ethics and Islamic codes of conduct and legislation.

617. Sabri, Nidal R.; Jabr, M. Hisham, Middle East/Arab Countries (Birzeit University//Birzeit University). Accounting Information Systems for Banks Without Inter-

est (Islamic Banks) [economics and development]. The Recent Accounting and Economic Developments in the Middle East. Champaign, IL: Center for International Education and Research in Accounting; 1985 May: 233-242.
Methodology: theoretical.
Presentation of a framework for Islamic banks, discussing the social and legislative factors that would influence such a system.

618. Said, Kamal E.; Funk, Jerry A., none (University of Houston//San Jacinto College). Planning and Control in Accounting Education: A Model for Subsystem Controls in a Free Market Environment [accounting education]. *The International Journal of Accounting*. 1976 Mar; 11(2): 103-119.
Methodology: theoretical.
Presentation of a model to regulate accounting education at the undergraduate and graduate levels. Regards education as a subsystem that needs restructuring so as to include controls for regulation. Gives several recommendations.

619. Salas, Cesar A., Central & South America (Arthur Andersen & Company). Accounting Education and Practice in Spanish Latin America [accounting education]. *The International Journal of Accounting*. 1967 Sep; 3(1): 67-85.
Methodology: deductive descriptive.
Study that relates problems in accounting education to issues about the practice of accounting in Latin American countries.

620. Samuels, J. M.; Oliga J. C., Developing Countries/Egypt/Italy/United Kingdom (University of Birmingham, England//University of Birmingham, England). Accounting Standards in Developing Countries [economics and development]. *The International Journal of Accounting*. 1982 Sep; 18(1): 69-88.
Methodology: theoretical.
Discussion of the view that uniform standards are always feasible and good. Argues that decisions must be made from one country to another.

621. Sands, John Stephens; Pragasam, John, Australia/United States/United Kingdom (Griffith University, Brisbane, Queensland, Australia//University of Southern Queensland, Toowoomba, Queenland, Australia). Students' Perceptions of the Usefulness of International Accounting course Contents: An Australian Study [accounting education]. *The International Journal of Accounting*. 1993; 28(4): 325-334.
Methodology: empirical descriptive.
Examination of the results of a survey given to Australian students who had just completed a course in international accounting to determine the usefulness of each topic taught via ranking.

622. Satubaldin, Sagandyk, Soviet Union (Alma-Ata Institute of National Economy, USSR). Methods of Analyzing Profits of Industrial Enterprises in the USSR [managerial accounting]. *The International Journal of Accounting*. 1976 Sep; 12(1): 91-99.
Methodology: empirical descriptive.
Discussion of the Soviet use of profit analysis to determine the extent of plan fulfillment, as well as the causes of non-fulfillment.

623. Saudagaran, Shahrokh M., United States (Santa Clara University). The SEC's Response to the Internationalization of Securities Markets [financial accounting

& reporting]. Changing International Financial Markets and Their Impact on Accounting. Champaign, IL: Center for International Education and Research in Accounting, Department of Accountancy; 1992: 125-138.
Methodology: capital markets.
Historical analysis of whether the Securities and Exchange Commission (SEC) has responded to pressure to ease its disclosure requirements to allow foreign securities to be accessible to American securities exchanges.

624. Savoie, Leonard M., United States (Clark Equipment Company). Financial and Accounting Aspects in International Business [financial accounting and reporting]. *The International Journal of Accounting*. 1973 Sep; 9(1): 13-22.
Methodology: deductive descriptive.
Case study of Clark Equipment Company's overseas investment.

625. Savoie, Leonard M., none (American Institute of Certified Public Accountants). International Dimensions of Accounting [financial accounting and reporting]. *The International Journal of Accounting*. 1969 Sep; 5(1): 79-84.
Methodology: deductive descriptive.
Study of progress in measuring the international dimensions of accounting which explores ways to achieve greater cooperation and understanding among accountants in all nations.

626. Scarbrough, Paul; McGee, Robert; Sakurai, Michiharu, United States/Japan (Bentley College, Waltham, Massachusetts//Seton Hall University, New York// Senshu University, Tokyo, Japan). Accounting for Software Costs in the United States and Japan: Lessons from Differing Standards and Practices [information systems]. *The International Journal of Accounting*. 1993; 28(4): 308-324.
Methodology: empirical descriptive.
Study of how different theoretical accounting models of a new software constructive process effect the accounting standards of both the United States and Japan. This article differentiates between the cost accounting emphasis of Japan and the financial accounting emphasis of the United States.

627. Schaller, Howard G., Thailand (Indiana University). Thailand: NIDA—An Experiment in Management in the Public and Private Sectors [economics and development]. *The International Journal of Accounting*. 1968 Sep; 4(1): 137-140.
Methodology: deductive descriptive.
Review of the current state of the National Institute for Development Administration (NIDA) in Thailand.

628. Schiff, J. B., Canada/United Kingdom/United States/Australia/India/Pakistan/Philippines/South Africa (Fairleigh Dickinson University). Management Accounting Practices Statement Promulgation: An International Perspective [managerial accounting]. *The International Journal of Accounting*. 1986 Sep; 22(1): 119-133.
Methodology: deductive descriptive.
Discussion of the various professional organizations influencing the promulgation of international management accounting standards.

629. Schoenfeld, Hanns-Martin, none (University of Illinois at Urbana-Champaign). Comments on 'International Accounting in an Inflationary Economy' [financial

accounting and reporting]. *The International Journal of Accounting.* 1968 Sep; 4(1): 165-168.

Methodology: theoretical.

Remarks concerning the development of adequate accounting procedures for enterprises operating in countries with an inflationary record.

630. Schoenfeld, Hanns-Martin, Germany (University of Illinois at Urbana-Champaign). Development and Present State of Cost Theory in Germany [managerial accounting]. *The International Journal of Accounting.* 1972 Sep; 8(1): 43-65.

Methodology: deductive descriptive.

Analysis of the development of cost theory in Germany.

631. Schoenfeld, Hanns-Martin, United States (University of Illinois at Urbana-Champaign). International Influences on the Contemporary Accounting Curriculum: International Accounting Instruction at the University of Illinois at Urbana-Champaign [accounting education]. *The International Journal of Accounting.* 1974 Sep; 10(1): 71-85.

Methodology: deductive descriptive.

Discussion of the need for a specialized course in international accounting.

632. Schoenfeld, Hanns-Martin, Germany (University of Illinois at Urbana-Champaign). New German Regulations for the Publication of Financial Statements [public accounting]. *The International Journal of Accounting.* 1970 Mar; 5(2): 69-88.

Methodology: deductive descriptive.

Summary of both the background and purposes of the Publicity Law in Germany.

633. Schweikart, James A., none (University of Richmond). Attitude Measurement and Instrumentation in International Accounting Research [accounting theory]. *The International Journal of Accounting.* 1987 Mar; 22(2): 131-141.

Methodology: deductive descriptive.

Discussion of the use of surveys in international accounting research. Presents different survey instruments and discusses their implementation.

634. Schweikart, James A., United States/Brazil/China (Temple University). Contingency Theory as a Framework for Research in International Accounting [financial accounting and reporting]. *The International Journal of Accounting.* 1985 Sep; 21(1): 89-98.

Methodology: theoretical.

Presentation of the contingency theory as a methodology for international accounting research.

635. Schweikart, James A.; O'Connor, Walter F., United States/Japan (University of Richmond//Fordham University). Attitude Measurement in International Accounting Research: A Test of Thurstone and Likert Scaling Validity [professional development]. *The International Journal of Accounting.* 1989; 24(2): 103-130.

Methodology: empirical descriptive.

Study of different research techniques to analyze attitudes toward international accounting.

636. Scott, George M., Netherlands (University of Pennsylvania). A Business Economics Foundation for Accounting: The Dutch Experience [accounting theory]. *The International Journal of Accounting*. 1970 Mar; 5(2): 117-131.
Methodology: deductive descriptive.
Presentation of the business economics approach to accounting as used by Dutch accountants.

637. Scott, George M., none (University of Texas at Austin). Financial Control in Multinational Enterprises—The New Challenge to Accountants [managerial accounting]. *The International Journal of Accounting*. 1972 Mar; 7(2): 55-68.
Methodology: deductive descriptive.
Study with two major objectives: (1) to show that multinational enterprises constitute a different economic phenomenon than had previously existed (2) to inform accountants about the probable impact of multinational enterprises on management, management information systems, financial accounts, and the education of accountants.

638. Scott, George M., none (University of Texas at Austin). Information Systems and Coordination in Multinational Enterprises [information systems]. *The International Journal of Accounting*. 1974 Sep; 10(1): 87-105.
Methodology: theoretical.
Explanation of the concept of coordination in management describing the coordinative form of management. Presents recent developments in information systems, arguing that computer technology will greatly facilitate coordination management.

639. Scott, George M., third world countries/developing countries (University of Pennsylvania). Private Enterprise Accounting in Developing Nations [economics and development]. *The International Journal of Accounting*. 1968 Sep; 4(1): 51-65.
Methodology: theoretical.
Examination of several aspects of private enterprise accounting in three advanced nations that proposes how this form of accounting could be applied in "developing" nations.

640. Sedaghat, Ali M.; Sagafi-Nejad, Tagi; Wright, George, Developing Countries (Loyola College, Baltimore, Maryland//Loyola College, Baltimore, Maryland//Loyola College, Baltimore, Maryland). Economic Development and Securities Markets in Developing Countries: Implications for International Accounting [economics & development]. *The International Journal of Accounting*. 1994; 29(4): 297-315.
Methodology: capital markets.
Investigation of variables to develop a model to associate economic development as measured by gross domestic product and securities markets.

641. Seidler, Lee J., none (New York University). Nationalism and the International Transfer of Accounting Skills [accounting education]. *The International Journal of Accounting*. 1969 Sep; 5(1): 35-45.
Methodology: deductive descriptive.
Discussion of the interference nationalistic activities in the transfer of accounting skills between countries.

642. Seidler, Lee J., developing countries/third world countries (New York University). Teaching Business Administration Overseas: The Case for the Ugly American [accounting education]. *The International Journal of Accounting.* 1968 Sep; 4(1): 145-154.
Methodology: theoretical.
Study of the reasons for the success of business schools organized around American models in developing countries in spite of the failure of these schools to "adapt" to local ways.

643. Sempier, Robert N., none (International Federation of Accountants). The International Federation of Accountants: Operating Procedures and Current Progress [financial accounting and reporting]. *The International Journal of Accounting.* 1979 Sep; 15(1): 21-31.
Methodology: deductive descriptive.
Description of three basic objectives of the International Federation of Accountants: to develop international concerns, to develop regional organizations, and to arrange international congresses.

644. Senteney, David L.; Bazaz, Mohammad S., United States (Eastern Michigan University, Ypsilanti, Michigan//Oakland University, Rochester, Michigan). The Impact of SFAS 14 Geographic Segment Disclosures on the Information Content of US-Based MNEs' Earnings Releases [financial accounting & reporting]. *The International Journal of Accounting.* 1992; 27(3): 267-279.
Methodology: empirical statistical.
Comparative statistical examination of unexpected earnings and unexpected security price revisions released simultaneously with US-based multinational enterprises' annual earnings releases before and after the implementation of SFAS 14.

645. Shalchi, Hossein; Zimmerman, V. K., United States/United Kingdom/Canada/South Africa (University of Illinois at Urbana-Champaign//University of Illinois at Urbana-Champaign). Appendix: Index of Price-Level and Inflation Accounting, 1972-76 [financial accounting and reporting]. The Impact of Inflation on Accounting: A Global View. Champaign, IL: Center for International Education and Research in Accounting; 1979 May: 262-300.
Methodology: empirical descriptive.
Study of price-level and inflation related articles categorized by topic and frequency.

646. Shama, Avraham; McMahan, Christopher G., Soviet Union/European Economic Community/Eastern bloc countries/United States (University of New Mexico//University of New Mexico). Perestroika and Soviet Accounting: From a Planned to a Market Economy [economics and development]. *The International Journal of Accounting.* 1990; 25(3): 155-169.
Methodology: deductive descriptive.
Discussion of the effect that reforms in the Soviet Union will have on its accounting system. Discusses the conceptual framework and history of the present system.

647. Shapiro, Alan C., none (University of Southern California). Evaluation and Control of Foreign Operations [managerial accounting]. *The International Journal of Accounting*. 1978 Sep; 14(1): 83-104.
Methodology: deductive descriptive.
Discussion of the evaluation and translation methods that affect the control of the multinational corporation. Author concludes that the multinational corporation should be treated as a social institution.

648. Sharkas, Wajdy, Kuwait (Kuwait University). The Effectiveness of the Supreme Audit Bureau in Kuwait in Monitoring Public Expenditures: An Evaluation [auditing]. *The International Journal of Accounting*. 1985 Sep; 21(1): 123-141.
Methodology: deductive descriptive.
Description of the economic, political, and regulatory effects on auditing in Kuwait.

649. Sharp, David J., Global (Boston College). Global Foreign Exchange Markets: Implications for Management Accounting [managerial accounting]. Changing International Financial Markets and Their Impact on Accounting. Champaign, IL: Center for International Education and Research in Accounting, Department of Accountancy; 1992: 107-124.
Methodology: capital markets.
Analysis of the implications of global currency markets' efficiency and volatility for managerial accounting.

650. Sharp, Robert F., global (Ohio University). The Use of Computer Simulation in International Accounting Research [professional development]. *The International Journal of Accounting*. 1989; 24(1): 57-69.
Methodology: deductive descriptive.
Discussion of computer simulation as a research tool. Past examples are given and author makes suggestions for future research implications.

651. Shields, Janice Christine, United States (Pennsylvania State University). Foreign Language and Accounting Expertise: A Marketable Combination [accounting education]. *The International Journal of Accounting*. 1981 Sep; 17(1): 133-146.
Methodology: empirical descriptive.
Survey of various multinational companies and accounting firms as to the marketability of foreign languages, which encourages multilingualism.

652. Shinawi, Ahmed Abdul Kadir; Crum, William F., Saudi Arabia (Ministry of Commerce and Industry of the Government of Saudia Arabia///University of Southern California). The Emergence of Professional Public Accounting in Saudi Arabia [public accounting]. *The International Journal of Accounting*. 1971 Mar; 6(2): 103-110.
Methodology: deductive descriptive.
Overview of the development of public accounting in Saudi Arabia.

653. Shoenthal, Edward, United States/United Kingdom (Brooklyn College). Differences in the Characteristics of Certified Public Accountants and Chartered Accountants: An Obstacle to Harmonization [public accounting]. *The International Journal of Accounting*. 1987 Sep; 23(1): 95-103.
Methodology: empirical descriptive.

Comparison of CPA's in the U.S. with CA's in the U.K.. which finds that CA's are more likely to be male, older than CPA's, and more highly trained and educated prior to licensing. Discusses the effect of these differences on efforts toward harmonization.

654. Shuaib, Shuaib A., Kuwait/Arab Countries (Kuwait University). Accounting Education in the Middle East: The Case of Kuwait [accounting education]. The Recent Accounting and Economic Developments in the Middle East. Champaign, IL: Center for International Education and Research in Accounting; 1985 May: 213-232.
Methodology: deductive descriptive.
Discussion of the development of accounting education in Kuwait.

655. Shuaib, Shuaib A., Kuwait (University of Kuwait). Accounting Information and the Development Planning Process in Kuwait [economics and development]. *The International Journal of Accounting*. 1980 Mar; 15(2): 129-141.
Methodology: deductive descriptive.
Description of the use of the accounting system in Kuwait as a source of information and as a tool for economic development. Urges the development of a professional body to analyze, define, assess information needs, and develop uniform standards in the system.

656. Shute, John, none (Agency for the International Development, Washington, D.C.). Comments on Dr. Churchill's Paper on Highway Finance [economics and development]. *The International Journal of Accounting*. 1968 Sep; 4(1): 111-114.
Methodology: theoretical.
Commentary on A.A. Churchill's crutuque of the balanced budget in highway finance.

657. Sigel, Phillip; Theerathorn, Pochara; Alcerreca-Joaquin, Carlos, United States (University of Houston-Downtown, Texas//Memphis State University, Memphis, Tennessee//University of Houston-Downtown/Instituto Technologio Autonono de Mexico, Mexico City, Mexico). The Determinants of Systematic Risk in Multinational Corporations After SFAS 52 [economics & development]. International Journal of Accounting. 1992; 27(4): 324-341.
Methodology: capital markets.
Study to identify various sources of risk for subsidiaries of multinational corporations in order to better evaluate the performance of multinational corporations. This research was done in light of the issuance of SFAS 52.

658. Simon, Abraham J., United States (Queens College, City University of New York). An Economic and Macroaccounting Framework for Household Nonmarket Production and Its Uses: The Output Side [economics and development]. *The International Journal of Accounting*. 1977 Mar; 12(2): 143-168.
Methodology: theoretical.
Presentation of a framework to account for nonmarket production output.

659. Simon, Abraham J., none (Queens College, City University of New York). A Macroaccounting Framework for the Value-Added and Saving Side of Household

Nonmarket Production [financial accounting and reporting]. *The International Journal of Accounting.* 1977 Sep; 13(1): 93-129.
Methodology: modeling.
Presentation of a model of the accounting methodology for the value-added perspective and nonmarket production. Focuses on the input side.

660. Simon, Daniel T., South Africa (University of Notre Dame). The Market for Audit Services in South Africa [auditing]. *The International Journal of Accounting.* 1995; 30(4): 356-365.
Methodology: empirical statistical.
Study to determine similarities between South African audit services/practices and those of the United States, United Kingdom, and Australia.

661. Simon, Daniel T.; Teo, Susan; Trompeter, Gregory, Hong Kong/Malaysia/Singapore (University of Notre Dame, Indiana//Nanyang Technological University, Singapore//Boston College, Massachusetts). A Comparative Study of the Market for Audit Services in Hong Kong, Malaysia, and Singapore [auditing]. *The International Journal of Accounting.* 1992; 27(3): 234-240.
Methodology: empirical statistical.
Study of similarities and differences between the audit services offered in Hong Kong, Malaysia, and Singapore.

662. Simon, Daniel T.; Ramanan, Ramachandran; Dugar, Amitabh, United States/India (Northwestern University//University of North Carolina//Northwestern University). The Market for Audit Services in India: An Empirical Examination [auditing]. *The International Journal of Accounting.* 1986 Mar; 21(2): 27-35.
Methodology: empirical statistical.
Study of auditing in India. Finds that auditor type, client size, audit risk, and complexity affect the audit fees in such engagements.

663. Simyar, Farhad, China (Concordia University, Canada). Joint Ventures in the People's Republic of China [economics and development]. Recent Accounting and Economic Developments in the Far East. Champaign, IL: Center for International Education and Research in Accounting; 1988 May: 169-195.
Methodology: deductive descriptive.
Discussion of the historical, economic, and social background of the environment surrounding enterprise in China. Suggests that foreign businesses obtain a basic understanding of these factors before implementing international endeavors.

664. Sinason, David H., none (University of North Florida). Executory Contracts in Agency Theory [accounting theory]. *The International Journal of Accounting.* 1988 Mar; 23(2): 137-143.
Methodology: deductive descriptive.
Discussion of the nature and function of the executory contract. Concludes that the information contained in such contracts should be disclosed to outside principles.

665. Singh, D. R.; Ahuja, Jag Mohan, India/United States (Punjab Agricultural University, India//Indian Bank). Corporate Social Reporting in India [financial

accounting and reporting]. *The International Journal of Accounting*. 1983 Mar; 18(2): 151-169.
Methodology: empirical statistical.
Survey of firms in India regarding their level of social disclosure. Finds that companies do not adequately disclose their social activities.

666. Singhvi, Surendra S., India (Miami University, Ohio). Characteristics and Implications of Inadequate Disclosure: A Case Study of India [financial accounting and reporting]. *The International Journal of Accounting*. 1968 Mar; 3(2): 29-43.
Methodology: empirical descriptive.
Study of some of the characteristics of corporations associated with the quality of disclosure in annual reports.

667. Sishtla, Vijaya Saradhi, India (Pennsylvania State University). Economic Change under Five-Year Plans and Accounting Education in India [accounting education]. Comparative International Accounting Educational Standards. Champaign, IL: Center for International Education and Research in Accounting; 1990 Apr: 213-236.
Methodology: deductive descriptive.
Discussion of the educational and professional requirements of the Indian accounting system. Contends that changes to date with the system have been disorganized and that restructuring is needed.

668. Skinner, R. C., none (University of Otago, New Zealand). Accounting Information for Decision-Making [managerial accounting]. *The International Journal of Accounting*. 1971 Sep; 7(1): 65-78.
Methodology: theoretical.
Study emphasizing unification in decision-making.

669. Skinner, R. C., none (Monash University, Australia). Combining LIFO and FIFO [accounting theory]. *The International Journal of Accounting*. 1975 Mar; 10(2): 127-133.
Methodology: theoretical.
Study of a method of stores issue pricing and stock valuation used by some companies in England, which combines the best features of LIFO and FIFO.

670. Skinner, R. C., none (Monash University, Australia). Cost Allocation in Management and Financial Accounting [financial accounting and reporting]. *The International Journal of Accounting*. 1986 Mar; 21(2): 91-107.
Methodology: deductive descriptive.
Description of cost allocation for financial accounting. Holds that cost allocation is appropriate and should be considered.

671. Skinner, R. C., Australia/United Kingdom/United States (Monash University, Australia). The Role of Conservatism in Determining the Accounting Lives of Fixed Assets [accounting theory]. *The International Journal of Accounting*. 1988 Mar; 23(2): 1-18.
Methodology: empirical descriptive.
Survey of the role of conservatism in both fixed asset life determination and valuation.

672. Skomp, Stephen E.; Ward, C. W. R., United Kingdom/United States (Louisiana Tech University//University of Lancaster, England). The Capital Structure Poli-

cies of U.K. Companies: A Comparative Study [economics and development]. *The International Journal of Accounting*. 1983 Sep; 19(1): 55-64.
Methodology: empirical descriptive.
Survey and comparison of British companies regarding their capital structure policies. Finds that managers in the U.K. tend to focus on the balance sheet.

673. Skully, Michael T., Japan/United States (University of New South Wales, Australia). Japanese Corporate Structure: Some Factors in Its Development [economics and development]. *The International Journal of Accounting*. 1981 Mar; 16(2): 67-98.
Methodology: deductive descriptive.
Discussion of the historical, social, and economic reasons for the growth of Japanese firms. Concludes that the Japanese firms have developed primarily because of the Japanese banking structure, but that the role of the Japanese banks will diminish in the future.

674. Smith, Charles H., none (University of Texas at Austin). The Modern Systems Approach, General System Theory, and Accounting Theory Development in the Age of Synthesis [accounting theory]. *The International Journal of Accounting*. 1971 Mar; 6(2): 59-73.
Methodology: theoretical.
Investigation of whether or not the systems approach and general system theory can contribute to the development of accounting theory.

675. Someya, Kyojiro, Japan (Waseda University, Tokyo, Japan). Accounting Standard Selection and its Socio-economic Consequences [professional development]. International Journal of Accounting. 1993; 28(2): 93-103.
Methodology: historical.
Analysis of three events in 1990 in which legal alternative reporting techniques by Japanese companies allowed those companies to evade ethical and credible standards of accounting.

676. Someya, Kyojiro, Japan (Waseda University, Japan). The Slip Accounting System: Traditional Bookkeeping Procedures in Japan [financial accounting and reporting]. *The International Journal of Accounting*. 1971 Sep; 7(1): 99-114.
Methodology: deductive descriptive.
Presentation of the advantages and disadvantages of methods employing slips to record transactions.

677. Soyode, Afolabi, Nigeria (University of Ibadan, Nigeria). Indigenizing the Multinational Corporation in Nigeria: Accounting and Social Effects [economics and development]. The Multinational Corporation: Accounting and Social Implications. Champaign, IL: Center for International Education and Research in Accounting; 1977 Jan: 107-126.
Methodology: deductive descriptive.
Explanation of the requirements necessary for the growth of the Nigerian economy.

678. Spagnola, Bob; Brannon, Roger, United States/United Kingdom/Germany (Colorado State University//University of Minnesota-Duluth). International Joint Ventures: A Perspective on Organization and Accounting Implications of Glo-

bal Partnering for U.S. Multinationals [economics & development]. International Journal of Accounting. 1994; 29(1): 34-45.
Methodology: deductive descriptive.
Examination of the organizational fundamentals of international joint ventures (IJVs) and various accounting issues related to them.

679. Sprouse, Robert T., United States (Financial Accounting Standards Board). Inflation: Symptom or Disease? [financial accounting and reporting]. The Impact of Inflation on Accounting: A Global View. Champaign, IL: Center for International Education and Research in Accounting; 1979 May: 1-19.
Methodology: theoretical.
Discussion of the effect of inflation on financial statement presentation and the unit of measurement. Discusses the capital maintenance concept and its relevance to investors.

680. Standish, Peter E. M., United Kingdom/France/Germany/Netherlands (London Graduate School of Business Studies). Accounting Responses to Inflation in the European Economic Community [financial accounting and reporting]. *The International Journal of Accounting*. 1975 Sep; 11(1): 167-186.
Methodology: deductive descriptive.
Discussion of the responses within the European Economic Community (ECC) to inflation from the standpoint of statutory disclosure requirements, particular professional bodies, and particular companies.

681. Standish, Peter E. M., none (London Graduate School of Business Studies). International Accounting Practice and the Reporting of Price-Level Changes [financial accounting and reporting]. The Multinational Corporation: Accounting and Social Implications. Champaign, IL: Center for International Education and Research in Accounting; 1977 Jan: 213-234.
Methodology: theoretical.
Description of theories of price-level translation and accounting for inflation.

682. Stanley, Marjorie T.; Block, Stanley B., none (Texas Christian University//Texas Christian University). Accounting and Economic Aspects of SFAS No. 8 [accounting theory]. *The International Journal of Accounting*. 1979 Mar; 14(2): 135-155.
Methodology: empirical descriptive.
Survey supporting modification of SFAS no. 8 because of increased volatility of earnings and the requirement that investors be better informed when dealing with a multinational firm.

683. Stolowy, Herve; Walser-Prochazka, Sylvie, United States/Canada/New Zealand/France (Ecole Superieure de Commerce de Paris, France//Ernst & Young, Paris, France). The American Influence in Accounting: Myth or Realty? The Statement of Cash Flows Example [financial accounting & reporting]. *The International Journal of Accounting*. 1992; 27(3): 185-221.
Methodology: deductive descriptive.
Results of a comparative survey to determine the extent of American and Canadian influence on more recent models of statement of cash flows.

684. Sudarwan, M.; Fogarty, Timothy J., Indonesia (Jakarta, Indonesia/Case Western Reserve University). Culture and Accounting in Indonesia: An Empirical

Examination [social effects of accounting]. *The International Journal of Accounting*, 1996; 31(No.4): 463-481.
Methodology: theoretical
An examination of the relationships among the cultural characteristics of Indonesian society, reporting practices of Indonesian firms, and accounting standards released by the Association of Indonesian Accounts. It is argued that an empirical relation exists between the change in cultural values and the change in accounting values as captured by Gray's four dimensions (professionalism, conservatism, secrecy, and uniformity).

685. Summers, Edward L.; Deskins, James Wesley, none (University of Texas at Austin//University of Illinois at Urbana-Champaign). A Classification Schema of Methods for Reporting Effects of Resource Price Changes (with Technical Appendix) [accounting theory]. *The International Journal of Accounting*. 1970 Sep; 6(1): 101-120.
Methodology: theoretical.
Taxonomy of the responses to the problem of financial reporting in the presence of resource price changes.

686. Suzuki, Norihiko, Japan (University of Illinois at Urbana-Champaign). The Japanese Auditing System: Its Problems and Prospects [auditing]. Managerial Accounting: An Analysis of Current International Application. Champaign, IL: Center for International Education and Research in Accounting; 1984 Jan: 93-106.
Methodology: deductive descriptive.
Discussion of the development of the auditing system in Japan and of the effects of legal, international, and social influences.

687. Swoboda, Peter, United States/West Germany (University of Frankfurt). Comparison of Consolidated Financial Statements in the United States and West Germany [financial accounting and reporting]. *The International Journal of Accounting*. 1966 Mar; 1(2): 9-24.
Methodology: deductive descriptive.
Comparison of consolidation practices in West Germany and (a) principles of accounting generally accepted in the U.S. and (b) SEC requirements.

688. Tai, Benjamin Y. K., Hong Kong (California State University at Fresno). The Accounting Profession in Hong Kong: Problems and Challenges [professional development]. Recent Accounting and Economic Developments in the Far East. Champaign, IL: Center for International Education and Research in Accounting; 1988 May: 219-228.
Methodology: deductive descriptive.
Discussion of the history and requirements in the accounting profession in Hong Kong. Concludes that current conditions are inadequate for future professional growth and calls for a plan to accommodate this professional growth.

689. Tai, Benjamin Y. K.; Au-Yeung, Pak-Kuen; Kwok, Maurice C. M.; Lau, Lawrence W. C., Hong Kong (California State University at Fresno//Chinese University of Hong Kong//Hagemeyer-Morison Ltd, Hong Kong//Television Broadcasts Limited, Hong Kong). Non-Compliance with Disclosure Requirements in Financial Statements: The Case of Hong Kong Companies [financial account-

ing and reporting]. *The International Journal of Accounting*. 1990; 25(2): 99-112.
Methodology: empirical statistical.
Study of seventy-six firms in Hong Kong regarding their compliance with disclosure requirements. Finds a 22% non-compliance rate overall. Analyzes the relationship of business size, sector, and auditor with non-compliance.

690. Talaga, James A.; Ndubizu, Gordian A., none (West Chester University//Drexel University). Accounting and Economic Development: Relationships among the Paradigms [economics and development]. *The International Journal of Accounting*. 1986 Mar; 21(2): 55-68.
Methodology: theoretical.
Discussion of the role accounting plays in economic development.

691. Tang, Qingliang, United Kingdom/China (University of New England, Armidale, NSW, Australia). Economic Consequences of the International Harmonization of Accounting Standards: Theory and its Chinese Application [economics & development]. International Journal of Accounting. 1994; 29(2): 146-160.
Methodology: theoretical.
Proposal of a theoretical model used to evaluate foreign users of financial statements as well as local users to determine the degree of harmonization of accounting standards on local affected groups and implementation of this model to explain pertinent accounting standards in Chinese joint ventures.

692. Taylor, Martin E.; Evans, Thomas G.; Joy, Arthur C., global/developing countries (University of South Carolina//Bowling Green State University//University of South Carolina). The Impact of IASC Accounting Standards on Comparability and Consistency of International Accounting Reporting Practices [financial accounting and reporting]. *The International Journal of Accounting*. 1986 Sep; 22(1): 1-9.
Methodology: empirical descriptive.
Survey of two big eight accounting firms regarding the comparability and consistency of present international reporting practices. Finds that the ISAC has been successful in improving such reports.

693. Tearney, Michael G.; Baridwan, Zaki, United States/United Kingdom/Japan/Netherlands/West Germany/Indonesia (University of Kentucky//Gadjah Mada University, Indonesia). The Effects of Translation Accounting Requirements and Exchange Rates on Foreign Operations' Financial Performance—The Case of Indonesia [financial accounting and reporting]. *The International Journal of Accounting*. 1989; 24(3): 251-265.
Methodology: empirical statistical.
Study of seventeen companies operating in Indonesia. Finds that U.S. companies showed higher performance after, rather than before, the translation of the financial statements.

694. Teoh, Hai Yap; Er, Meng, Australia (University of Wollongong, Australia//University of Wollongong, Australia). Impact of Floating Exchange Rates on Company Risk Management Practices and Reported Income: The Australian

Experience [financial accounting and reporting]. *The International Journal of Accounting*. 1989; 24(3): 221-236.
Methodology: empirical descriptive.
Survey of 480 Australian companies involved in international trade. Finds that Australian currency fluctuations have increased the exposure to exchange rate risk.

695. Teruya, Yukio, Japan/United States (Okinawa University, Japan). The Accounting Disclosure System in Japan [financial accounting and reporting]. Recent Accounting and Economic Developments in the Far East. Champaign, IL: Center for International Education and Research in Accounting; 1988 May: 163-167.
Methodology: deductive descriptive.
Discussion of the development and regulation of the current accounting disclosure system in Japan. Discusses the current structure of the system and problems existing in it today.

696. Thomas, R. Douglas, United States/Canada/United Kingdom (Canadian Institute of Chartered Accountants). The Accountants International Study Group—The First Three Years [accounting education]. *The International Journal of Accounting*. 1970 Sep; 6(1): 59-65.
Methodology: theoretical.
Critique of the work of the Accountants International Study Group.

697. Thorelli, Hans B., developing countries (Indiana University). Management Audit and Social Indicators: The MNC through the Glasses of the LDC [managerial accounting]. The Multinational Corporation: Accounting and Social Implications. Champaign, IL: Center for International Education and Research in Accounting; 1977 Jan: 1-19.
Methodology: deductive descriptive.
Explanation of the need for management audits at the local level of the less developed countries.

698. Tondkar, Rasoul H.; Adhikari, Ajay; Coffman, Edward N., European Economic Community (Virginia Commonwealth University//Grand Valley State University//Virginia Commonwealth University). An Analysis of the Impact of Selected EEC Directives on Harmonizing Listing and Filing Requirements of EEC Stock Exchanges [financial accounting and reporting]. *The International Journal of Accounting*. 1990; 25(2): 127-143.
Methodology: deductive descriptive.
Discussion of the effects that the admission, listing, and interim reporting directives have had on four European Economic Communities' stock exchanges. Analyzes the listing and filing requirements for the international, Amsterdam, Frankfurt, and Paris exchanges are analyzed and concludes that the directives have prompted harmonization.

699. Tondkar, Rasoul H.; Adhikari, Ajay; Coffman, Edward N., United States/Japan/United Kingdom/Germany/France (Virginia Commonwealth University//Virginia Commonwealth University//Virginia Commonwealth University). The Internationalization of Equity Markets: Motivations for Foreign Corporate Listing and Filing and Listing Requirements of Five Major Stock Exchanges

[economics and development]. *The International Journal of Accounting*. 1989; 24(2): 143-163.
Methodology: deductive descriptive.
Discussion of listing and filing characteristics in the international markets.

700. Treffers, Henk C., Europe (Union Europeene des Experts Comptables, Economiques et Financiers). The Changing Nature of the European Accounting Profession [professional development]. *The International Journal of Accounting*. 1967 Sep; 3(1): 43-54.
Methodology: deductive descriptive.
Discussion of the problems facing the European accounting profession. .

701. Tritschler, Charles A., France (Purdue University). A Sociological Perspective on Accounting Innovation [accounting theory]. *The International Journal of Accounting*. 1970 Mar; 5(2): 39-67.
Methodology: theoretical.
Study of social variables within the context of accounting innovation. Uses these social variables to explain mixed patterns in the adoption of adjusted statements and their ultimate rejection in France.

702. Trotman, Ken T., Australia/Canada/United States/United Kingdom (The University of New South Wales, Australia). An Evaluation of Accounting for Construction Contracts: An International Comparison [financial accounting and reporting]. *The International Journal of Accounting*. 1982 Mar; 17(2): 151-166.
Methodology: theoretical.
Presentation of the methodology used to account for construction projects. Concludes that current standards do not properly address the issue and that future standards should consider existing conditions.

703. Tsui, Judy S.L., Hong Kong (City University of Hong Kong). Auditors' Ethical Reasoning: Some Audit Conflict and Cross Cultural Evidence [auditing]. *The International Journal of Accounting*, 1996; 31(1): 121-133.
Methodology: empirical statistical
An examination of the relationship between different levels of ethical reasoning and ethical behavior of Hong Kong Auditors in an audit conflict situation. Tests the hypothesis that ethical reasoning scores for Hong Kong auditors will be lower than US auditors on the basis of Hofestede's theory of cultural differences.

704. Turk, Ivan, Yugoslavia (University of Ljubljana, Yugoslavia). Analysis of Efficiency by Means of Interrelated Indicators: A Yugoslav Approach [economics and development]. *The International Journal of Accounting*. 1982 Mar; 17(2): 89-102.
Methodology: deductive descriptive.
Discussion of the Yugoslavian method of efficiency analysis using indicators.

705. Turk, Ivan, Yugoslavia (Ljubljana University, Yugoslavia). Recent Professional Statements of Accounting Principles and Ethics in Yugoslavia [financial accounting and reporting]. *The International Journal of Accounting*. 1976 Sep; 12(1): 111-120.
Methodology: deductive descriptive.

Discussion of the socioeconomic, regulatory, and theoretical effects of the accounting system in Yugoslavia.

706. Turley, W. S., European Economic Community (University of Manchester, England). International Harmonization of Accounting: The Contribution of the EEC Fourth Directive on Company Law [financial accounting and reporting]. *The International Journal of Accounting*. 1983 Mar; 18(2): 13-27.
Methodology: theoretical.
Study that attributes differences in accounting practice to theoretical differences. Concludes that international standard-setting is far more complex than originally thought.

707. Tyra, Anita I., Europe (Bellevue Community College). Financial Disclosure Patterns in Four European Countries [public accounting]. *The International Journal of Accounting*. 1970 Mar; 5(2): 89-101.
Methodology: empirical descriptive.
Synopsis of a study on financial disclosure in annual reports published in West Germany, France, the Netherlands, and the U.K.

708. Ueno, Susumu; Wu, Frederick H., United States/Japan (Kanazawa College of Economics, Toyama-City, Japan//Southern Illinois University at Carbondale, Illinois). The Comparative Influence of Culture on Budget Control Practices in the United States and Japan [managerial accounting]. International Journal of Accounting. 1993; 28(1): 17-39.
Methodology: empirical statistical.
Study to determine degree of impact of national culture on budget control practices in the United States and Japan.

709. Vaidya, Surekha; Poitras, Geoffrey; Talib, Ameen, Singapore/United States/Germany (National University of Singapore//Simon University, Burnaby, BC, Canada//National University of Singapore). International Accounting Implications of Bond-cum-Warrant Issues [financial accounting & reporting]. *The International Journal of Accounting*. 1995; 30(1): 25-36.
Methodology: empirical descriptive.
Determination of how differences in accounting and policies for warrant bond issues effect subsequent reporting and disclosure of such information.

710. Van Offeren, Dick; Bavishi, Vinod B., European Community (University of Amsterdam, The Netherlands//Center of International Financial Analysis & Research, Inc.). Financial Reporting Practices of Leading European Companies [financial accounting & reporting]. The New Europe: Recent Political and Economic Implications for Accountants and Accounting. Champaign, IL: Center for International Education and Research in Accounting; 1994: 29-42.
Methodology: empirical descriptive.
Study to identify annual reports which provide useful information to international readers.

711. van Seventer, A., Netherlands (San Jose State University). The Continuity Postulate in the Dutch Theory of Business Income [accounting theory]. *The International Journal of Accounting*. 1969 Mar; 4(2): 1-19.
Methodology: theoretical.

Study of the continuity postulate offered by the Amsterdam school as a new approach to the problems of income accounting.

712. van Seventer, A., Netherlands (San Jose State University). Replacement Value Theory in Modern Dutch Accounting [accounting theory]. *The International Journal of Accounting*. 1975 Sep; 11(1): 67-94.
Methodology: theoretical.
Discussion of a few fundamental principles of the replacement value theory.

713. van Seventer, A., none (San Jose State University). An Unsettled Problem in the Theory of Replacing Durable Assets: The Wemelsfelder—Traas Controversy [accounting theory]. *The International Journal of Accounting*. 1974 Mar; 9(2): 45-81.
Methodology: theoretical.
Discussion of the problem of replacing durable assets without giving attention to the literature of economics and finance.

714. Vandendries, Rene, Peru (University of Illinois at Urbana-Champaign). Social Accounting and Its Applications in Peru [social effects of accounting]. *The International Journal of Accounting*. 1970 Sep; 6(1): 91-99.
Methodology: theoretical.
Study of the interrelationships among variables of macroaccounts, essential for the analysis of the economic development of Peru.

715. Vangermeersch, Richard, European Economic Community/United States (University of Rhode Island). The Route of the Seventh Directive of the EEC on Consolidated Accounts—Slow, Steady, Studied, and Successful [financial accounting and reporting]. *The International Journal of Accounting*. 1985 Mar; 20(2): 103-118.
Methodology: deductive descriptive.
Discussion of the development and implications of the European Economic Community's seventh directive.

716. Vatter, William J., none (University of California at Berkeley). Progress in the Pursuit of Principles [accounting theory]. *The International Journal of Accounting*. 1969 Sep; 5(1): 1-15.
Methodology: deductive descriptive.
Critique of developments in accounting principles which have not achieved the anticipated goals.

717. Velayutham, Sivakumar; Perera, Hector, New Zealand (Massey University, New Zealand). Recent Development in the Accounting Profession in New Zealand: A Case of Deprofessionalization? [professional development]. *The International Journal of Accounting*, 1996; 31(4): 445-462.
Methodology: deductive descriptive
A description of recent developments in the accounting profession in New Zealand and analysis of the direction of these changes. Evidence is provided to argue that the recent changes in the accounting profession in New Zealand suggest a trend towards deprofessionalization.

718. Vergoosen, Ruud G. A., The Netherlands//United States (Vrije Universiteit, Amsterdam, The Netherlands). The Classification of Leases by Leassees in the

United States and the Netherlands: A Comparative Study [financial accounting & reporting]. *The International Journal of Accounting.* 1992; 27(3): 241-254.
Methodology: deductive descriptive.
Comparative study between Dutch and American lease classification systems and SFAC No. 2.

719. Vickrey, Don W., none (Arizona State University West, Phoenix). An Internationally Relevant, Alternative Price-Oriented Concept of Market Efficiency [economics & development]. *The International Journal of Accounting.* 1994; 29(3): 206-219.
Methodology: deductive descriptive.
Introduction and application of an alternative price-oriented concept of market information efficiency.

720. Vickrey, Don W., none (University of Arizona). Two Views of Current-Exit Values: Addition and Additivity [accounting theory]. *The International Journal of Accounting.* 1976 Mar; 11(2): 51-57.
Methodology: theoretical.
Discussion of how current-exit values can be added in a manner consistent with measurement theory. Contends that a current-exit-value accounting system can be developed around the concepts of realizable market value of an asset set and discharge value of a liability set.

721. Violet, William J., United States/United Kingdom (Moorhead State University). The Development of International Accounting Standards: An Anthropological Perspective [social effects of accounting]. *The International Journal of Accounting.* 1983 Mar; 18(2): 1-12.
Methodology: theoretical.
Social analysis of the development of international accounting standards.

722. Violet, William J., United States (Moorhead State University). A Philosophical Perspective on the Development of International Accounting Standards [accounting theory]. *The International Journal of Accounting.* 1983 Sep; 19(1): 1-13.
Methodology: deductive descriptive.
Discussion of the pragmatic formulation of accounting principles in a society. Calls for the development of a postulate based framework for international principles.

723. Vobroucek, C. A., United Kingdom/United States/Canada/Brazil/Australia (Caterpillar Tractor Company). Reshaping Corporate Information Flows Using Cost-Effective Financial Systems [managerial accounting]. Managerial Accounting: An Analysis of Current International Application. Champaign, IL: Center for International Education and Research in Accounting; 1984 Jan: 71-81.
Methodology: deductive descriptive.
Discussion of the transformation of the accounting system at Caterpillar Tractor into one that is standardized and centrally controlled.

724. Walker, Kenton B.; Johnson, Eric N., Australia/United Kindom/New Zealand/Denmark/Korea/ Canada/Singapore/India/Hong Kong (University of Wyoming/ University of Toledo). A Review of Synthesis of Research on Supplier Concen-

tration, Quality and Fee Structure in non-U.S. Markets for Auditor Services [auditing]. *The International Journal of Accounting*, 1996; 31(No.1): 1-18.
Methodology: Historical.
A review of research on audit market concentration, auditor quality and the determinants of audit fees in countries outside of the U.S. Identifies some structural differences in audit markets between studies that are traceable to divergence in economic, cutural nd social norms across developed and developing countries.

725. Wang, Zhemin, Global (North Dakota State University). An Empirical Assessment of IASC's Proposed Goodwill Amortization Requirement [financial accounting & reporting]. *The International Journal of Accounting*. 1995; 30(1): 37-47.
Methodology: empirical statistical.
Analysis of the implications involving IASC's proposal to amortize goodwill over a five-year period.

726. Waresul Karim, A.K.M.; Moizer, Peter, Bangladesh (University of Leeds). Determinants of Audit Fees in Bangladesh [auditing]. *The International Journal of Accounting*, 1996; 31(4): 497-509.
Methodology: auditing.
A description of the nature of audit services market in Bangladesh and analysis of the determinants of audit fees of both financial and non-financial companies in Bangladesh. It shows that the size of the auditee has the greatest influence on audit fees and that auditees which employed at least one qualified acountant had higher audit fees.

727. Wasley, Robert S., New Zealand (University of Colorado at Boulder). The Role of Management Accounting in New Zealand Business [managerial accounting]. *The International Journal of Accounting*. 1975 Mar; 10(2): 57-74.
Methodology: theoretical.
Discussion of four basic elements of management accounting: organizational structure, a chart of accounts, a cost accounting and budgeting system, and frequent comparison of the budget to actual performance.

728. Wasley, Robert S., New Zealand (University of Colorado). The Status of Accountancy and of Accounting Practices in New Zealand [professional development]. *The International Journal of Accounting*. 1968 Mar; 3(2): 67-89.
Methodology: deductive descriptive.
Study of the status of accountancy and of accounting practices in New Zealand as they relate to the economic and social environment of the country and the existing philosophy of management.

729. Weber, Charles, none (University of Illinois at Urbana-Champaign). Income Determination Theory: Some Mathematical and Graphical Approaches [accounting theory]. *The International Journal of Accounting*. 1966 Sep; 2(1): 35-47.
Methodology: theoretical.
Proposal of steps to integrate probability theory into the framework of accounting thought. Emphasizes the determination of subjective income along Bayesian lines and the establishment of a clear distinction between subjective and realizable income.

730. Weber, John A., none (University of Notre Dame). Keeping Current on New Developments in Accounting [miscellaneous]. *The International Journal of Accounting*. 1971 Sep; 7(1): 115-123.
Methodology: empirical descriptive.
Study of recent developments in journal systems of related disciplines, which suggests that the average lag within the accounting journal system will increase in the future unless acceptance rates are reduced. Concedes, however, that the current accounting journal systems are more efficient than those in the past.

731. Weinstein, Arnold K.; Corsini, Louis; Pawliczek, Ronald, United States/Europe (Boston College//Boston College//Boston College). The Big Eight in Europe [public accounting]. *The International Journal of Accounting*. 1978 Mar; 13(2): 57-71.
Methodology: empirical descriptive.
Survey of the big eight firms regarding their organizational structures in the U.S. and Europe. Presents different models of organizational structure among the big eight and concludes that big eight firms must be more responsive to local needs, yet retain enough control to ensure proper international reporting.

732. Weirich, Thomas R.; Clarence G. Avery; Anderson, Henry R., none (Northern Illinois University//Northern Illinois University//Northern Illinois University). International Accounting: Varying Definitions [financial accounting and reporting]. *The International Journal of Accounting*. 1971 Sep; 7(1): 79-87.
Methodology: empirical descriptive.
Study with three main purposes: (1) to report research on some of the major concepts of the term "international accounting," (2) to survey periodicals on this topic to determine if the authors have explicitly defined "international accounting," if not, to arrive deductively of a definition from the periodicals, and (3) based on an analysis of these articles to draw a conclusion as to the meaning of "international accounting."

733. Welton, Ralph E.; Davis, James R., United States/New Zealand (Clemson University//Clemson University). Accounting Implications of the Perception of Professional Ethics: A Comparative Analysis of American and New Zealand Students [social effects of accounting]. *The International Journal of Accounting*. 1990; 25(4): 268-283.
Methodology: empirical descriptive.
Study of U.S. and New Zealand college students that shows a maturation process regarding ethics that occurs during the college years.

734. Westaway, James G., United States (Barber-Ellis Group). Inflation Accounting: What Would We Do without It? [financial accounting and reporting]. The Impact of Inflation on Accounting: A Global View. Champaign, IL: Center for International Education and Research in Accounting; 1979 May: 43-54.
Methodology: deductive descriptive.
Description of the use of replacement cost accounting by the Barber-Ellis Group.

735. White, Mick; Hopkins, Roger; Juchau, Roger H., Cook Islands/Fiji/Kiribati/Nauru/Niue/Solomon Islands/Tonga/Tuvalu/Vanautu/Western Samoa (University of the South Pacific//University of Singapore//University of Canterbury, New

Zealand). Tertiary Education Strategies for Accounting in Developing Societies—The Southwest Pacific as a Case Study [economics and development]. *The International Journal of Accounting*. 1986 Mar; 21(2): 145-160.
Methodology: deductive descriptive.
Discussion of the factors that affect the accounting profession in the southwest Pacific.

736. Wilkinson, Theodore L., United States (Price Waterhouse & Company). United States Accounting as Viewed by Accountants of Other Countries [accounting theory]. *The International Journal of Accounting*. 1965 Sep; 1(1): 3-14.
Methodology: deductive descriptive.
Narration of the inconsistencies and problems plaguing current (1965) accounting practices, both domestic and international.

737. Will, Hartmut J., United States (University of British Columbia). Computerized Accounting: International Issues [information systems]. *The International Journal of Accounting*. 1980 Sep; 16(1): 169-203.
Methodology: deductive descriptive.
Discussion of the role of accounting in management information systems. Calls for the standardization of professional principles and of the management information systems.

738. Williams, Thomas H.; Griffin, Charles H., none (University of Texas at Austin// University of Texas at Austin). MAS and the Expanded Meaning of Accounting Education [accounting education]. *The International Journal of Accounting*. 1973 Mar; 8(2): 33-43.
Methodology: deductive descriptive.
Study of the evolution of the management advisory function, accounting practice, and the question of appropriate education.

739. Willingham, John J.; Sorenson, James E., none (University of Texas at Arlington// University of Denver). The Behavior Science Milieu of Accounting [social effects of accounting]. *The International Journal of Accounting*. 1971 Sep; 7(1): 49-63.
Methodology: theoretical.
Study of the scientific content of accounting placing special emphasis on the behavioral dimension.

740. Winjum, James O., United Kingdom (University of Michigan). Income Tax Administration in Great Britain [taxation]. *The International Journal of Accounting*. 1972 Sep; 8(1): 109-116.
Methodology: deductive descriptive.
Discussion of the general administration of income taxes in Great Britain, emphasizing the roles played by local tax inspectors and independent chartered accountants in the assessment of income taxes.

741. Woelfel, Charles J., none (Southern Illinois University). Understanding the Multinationals [financial accounting and reporting]. *The International Journal of Accounting*. 1976 Mar; 11(2): 133-142.
Methodology: empirical descriptive.
Discussion of the role and operations of multinationals in modern society. Defines multinational corporations and discusses technological, economic, and

political factors contributing to the development of a domestic company's foreign operations. Forms conclusions based on evidence drawn from discussions and correspondence with executives in major multinational corporations and members of academia.

742. Wolk, Harry I.; Heaston, Patrick H., United States (Drake University, Des Moines, Iowa//Drake University, Des Moines, Iowa). Toward the harmonization of Accounting Standards: An Analytical Framework [financial accounting & reporting]. *The International Journal of Accounting*. 1992; 27(2): 95-111.
Methodology: modeling.
Presentation of an analytical framework for examining accounting event categories (called uniformity analysis) frequently used in globalized business operations in an attempt to increase harmonization.

743. Wolk, Harry I.; Briggs, Roger W., none (Drake University//Drake University). Accounting Research, Professors, and Practitioners: A Perspective [accounting education]. *The International Journal of Accounting*. 1975 Mar; 10(2): 47-56.
Methodology: theoretical.
Presentation of a sample framework for analyzing accounting research, placed within the context of current criticisms made by directors of accounting education. Suggests how to strengthen accounting research, the perceived neglect of which has been responsible, in part, for the eroding relationship between professors and practitioners.

744. Wong-Boren, Adrian, Mexico/United States (San Diego State University). Important Events in the Development of the Accounting Profession in Mexico [accounting history]. *The International Journal of Accounting*. 1987 Sep; 23(1): 23-46.
Methodology: deductive descriptive.
Historical survey of the accounting profession in Mexico.

745. Wong-Boren, Adrian; Barnett, Andrew H., Mexico/United States (San Diego State University//San Diego State University). Mexican Market Efficiency: A Study of the Information Content of Accounting Numbers [financial accounting and reporting]. *The International Journal of Accounting*. 1984 Sep; 20(1): 45-70.
Methodology: empirical statistical.
Study of the Mexican stock exchange to determine the value of the financial statement information, which finds that this information did help investment decisions.

746. Wonnacott, Ronald, none (University of Western Ontario). U.S. Investment and the Recipient Country [economics and development]. *The International Journal of Accounting*. 1972 Mar; 7(2): 45-54.
Methodology: deductive descriptive.
Discussion of U.S. investment practices and the reasons why they raise problems for Europeans and Canadians.

747. Woodruff, William, Global (University of Florida). The Accumulation and Transfer of Capital: A Global View [accounting history]. Changing International Financial Markets and Their Impact on Accounting. Champaign, IL: Center for

International Education and Research in Accounting, Department of Accountancy; 1992: 147-154.
Methodology: historical.
Examination of the evolution of global capitalization and various issues regarding capital accumulation and transfer.

748. Woodruff, William, United States/Korea/Soviet Union (University of Florida). World Power and the United States: The Shifting Realities [economics and development]. The Impact of Inflation on Accounting: A Global View. Champaign, IL: Center for International Education and Research in Accounting; 1979 May: 189-203.
Methodology: deductive descriptive.
Discussion of the reasons for the inability of the U.S. to provide economic leadership to the Western world.

749. Wright, F. K., none (University of Adelaide in South Australia). The Valuation of Tax-Depreciable Assets [taxation]. *The International Journal of Accounting*. 1973 Mar; 8(2): 45-57.
Methodology: theoretical.
Modification of the theory of asset valuation, as it applies to the problem of valuing tax-depreciable assets.

750. Wright, William, United States (Stanford University). An Empirical Study of the Professional Socialization of Accounting Students [accounting education]. *The International Journal of Accounting*. 1977 Sep; 13(1): 53-76.
Methodology: empirical descriptive.
Survey of entry-level auditors, which revealed a desire for less tedious and mundane responsibilities. Author concludes that public firms could lower employee turnovers and audit cost by implementing such desires.

751. Wu, Frederick H.; Hackett, Donald W., United States/Europe/Central & South America/Canada/Africa/Asia/Oceania/Middle East (Wichita State University//Wichita State University). The Internationalization of U.S. Public Accounting Firms: An Empirical Study [public accounting]. *The International Journal of Accounting*. 1977 Mar; 12(2): 81-91.
Methodology: empirical descriptive.
Study of U.S. CPA firms regarding their expansion outside the U.S. Finds that client requirements and the desire to serve clients moving abroad were the main factors influencing the expansion.

752. Wu, Frederick H.; Sharp, Douglas, none (Wichita State University//Wichita State University). An Empirical Study of Transfer Pricing Practice [financial accounting and reporting]. *The International Journal of Accounting*. 1979 Mar; 14(2): 71-99.
Methodology: empirical descriptive.
Study of the prominence of transfer pricing theory, which traces its influence to market prices and social factors.

753. Wyatt, Arthur R., United States (Arthur Andersen & Co.). Accounting Standards: National or International? [financial accounting & reporting]. Changing International Financial Markets and Their Impact on Accounting. Champaign, IL:

Center for International Education and Research in Accounting, Department of Accountancy; 1992: 31-42.
Methodology: deductive descriptive.
This article addresses the need for the promulgation of international accounting standards in light of the globalization of the business sector.

754. Xu-Ying, Yu, China (Xiamen University, People's Republic of China). The Fund Market in China: Its Formation, Development, and Impact on Accounting [economics & development]. Changing International Financial Markets and Their Impact on Accounting. Champaign, IL: Center for International Education and Research in Accounting, Department of Accountancy; 1992: 67-92.
Methodology: capital markets.
Examination of the growth of the commodity market in China and its effects on China's accounting system. A hypothetical model is introduced and its impact upon various areas of accounting is analyzed.

755. Xu-ying, Yu, China/United States (Xiamen University, People's Republic of China). The General Character of Chinese and U.S. Management Accounting and an Analysis of the New Chinese Management Accounting Style [managerial accounting]. Recent Accounting and Economic Developments in the Far East. Champaign, IL: Center for International Education and Research in Accounting; 1988 May: 51-64.
Methodology: deductive descriptive.
Discussion of the developments which have led to the current managerial accounting practices in China and the U.S. Includes as overview of current Chinese managerial accounting theory.

756. Yagil, Joseph; Amoako-Adu, Ben; Kantor, Jeffrey, Canada/United States (Haifa University//University of New Brunswick//University of Windsor). Capital Cost Allowance (Depreciation) and Capital Budgeting in Canada [managerial accounting]. *The International Journal of Accounting*. 1986 Mar; 21(2): 47-54.
Methodology: theoretical.
Discussion of the effects that disposition value will have on capital budgeting in Canada.

757. Yamaji, Hidetoshi, Japan (Kobe University, Japan). Collective Bargaining and Accounting Disclosure: An Inquiry into the Changes in Accounting Policy [financial accounting and reporting]. *The International Journal of Accounting*. 1986 Sep; 22(1): 11-23.
Methodology: empirical statistical.
Study of Japanese firms regarding the effect that collective bargaining has on the manipulation of accounting information. Finds that Japanese management is inclined to manipulate the accounting information in order to reduce a firm's labor costs.

758. Yamamura, Jeanne H.; Frakes, Albert H.; Sanders, Debra L.; Ahn, Sung K., Japan/United States (University of Nevad/Washington State University). *The International Journal of Accounting*. 1996; 31(3): 347-363.
Methodology: auditing.
An empirical comparison of Japanese and US auditor decision making in areas expected to be affected by cultural differences. Results proved national differ-

ences, however, due to environmental factors rather than the theorized effect of cultural differences.

759. Yu, S. C., United States (University of Florida). Is the New U.S. Budget More a Understandable Document? [governmental]. *The International Journal of Accounting*. 1968 Mar; 3(2): 45-66.
Methodology: deductive descriptive.
Examination of the new budget in an effort to determine whether or not it is easier to understand and more useful than the old budget.

760. Yu, S. C., none (University of Florida). A Reexamination of the Going Concern Postulate [accounting theory]. *The International Journal of Accounting*. 1971 Mar; 6(2): 37-58.
Methodology: deductive descriptive.
Reexamination of the going concern concept, by identifying its constitutive and operational meanings and by explaining its implications.

761. Yu, S. C., none (University of Florida). The Several Modes of Normative Accounting Thought: A Critical Examination [accounting theory]. *The International Journal of Accounting*. 1974 Mar; 9(2): 83-104.
Methodology: theoretical.
Examination of several modes of accounting thought, with reference to epistemological foundations and empirical validity. Discusses assertions in theorization, especially emphasizing truth values, the positive and normative phases of accounting operation.

762. Zappala, Frederick J., Italy (Boston College). The Current State of the Accounting Profession in Italy [public accounting]. *The International Journal of Accounting*. 1973 Mar; 8(2): 111-121.
Methodology: empirical descriptive.
Survey of professional accountants, university professors, and students to obtain a consensus of opinion on existing conditions of public accounting in Italy.

763. Zeff, Stephen A., Thailand (Tulane University). Comments on the NIDA Program [accounting education]. *The International Journal of Accounting*. 1968 Sep; 4(1): 141-143.
Methodology: theoretical.
Brief commentary on the NIDA Program.

764. Zick, John W., Saudi Arabia (Price Waterhouse & Company). International Trade: Opportunities in the Arabian Gulf [miscellaneous]. The Recent Accounting and Economic Developments in the Middle East. Champaign, IL: Center for International Education and Research in Accounting; 1985 May: 33-41.
Methodology: deductive descriptive.
Discussion of the opportunities and requirements for establishing enterprise in the Middle East.

765. Ziebart, David A., United States/inflationary countries (University of Illinois at Urbana-Champaign). Exchange Rates and Purchasing Power Parity: Evidence Regarding the Failure of SFAS No. 52 to Consider Exchange Risk in

Hyper-Inflationary Countries [financial accounting and reporting]. *The International Journal of Accounting*. 1985 Sep; 21(1): 39-51.
Methodology: empirical statistical.
Empirical study of SFAS No. 52 regarding exchange risk exposure in hyper-inflationary countries. Concludes that SFAS No. 52 fails to address this risk.

766. Zimmerman, V. K., none (University of Illinois at Urbana-Champaign). The Long Shadow of a Scholar [miscellaneous]. *The International Journal of Accounting*. 1967 Mar; 2(2): 1-20.
Methodology: deductive descriptive.
Appreciation of A. C. Littleton's lifelong devotion to accounting.

767. Zund, Andre, Switzerland (University of St. Gallen, Switzerland).Accounting and Auditing in Switzerland [miscellaneous]. The New Europe: Recent Political and Economic Implications for Accountants and Accounting. Champaign, IL: Center for International Education and Research in Accounting; 1994: 17-28.
Methodology: deductive descriptive.
Overview of the accounting environment in Switzerland and its evolution toward European harmonization.

768. Zund, Andre, Switzerland (Saint Gall Graduate School, Switzerland). Swiss Accounting and Auditing in an International Context [professional development]. The Recent Accounting and Economic Developments in Western Europe. Champaign, IL: Center for International Education and Research in Accounting; 1985 May: 1-13.
Methodology: deductive descriptive.
Discussion of how the Swiss accounting profession will be affected by conformity to the practices of other countries.

UCTIONS FOR AUTHORS

ıd **SCOPE**. The aims of *The International Journal of Accounting* are to advance the aca- d professional understanding of accounting theory and practice from the international per- and viewpoint. The *Journal* recognizes that international accounting is influenced by a forces, e.g., governmental, political and economic.

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The *Journal* attempts to assist in the understanding of the present and potential ability of accounting to aid in the recording and interpretation of international economic transactions. These transactions may be within a profit or nonprofit environment. The *Journal* deliberately encourages a broad view of the origins and development of accounting with an emphasis on its functions in an increasingly interdependent global economy, and welcomes manuscripts that help explain current international accounting practices, with related theoretical justifications, and identify criticisms of current practice. Other than occasional commissioned papers or special issues, all the manuscripts published in the *Journal* are selected by the editors after the normal refereeing process.

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ISSN: 0020-7063

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Volume 33 • Number 2 • 1998

Published by
JAI Press Inc.
Greenwich, Connecticut London, England

For:
Center for International Education and Research in Accounting, University of Illinois at Urbana–Champaign

Name of publication: **THE INTERNATIONAL JOURNAL OF ACCOUNTING** (ISSN:0020-7063)
Issue: Volume 33/Number 2/1998
Frequency: Published Quarterly
Office of publication: 55 Old Post Road No. 2, P.O. Box 1678
Greenwich, Connecticut 06836-1678.

Subscription rates (postage included):

Institutions: United States $225.00
Foreign Surface Mail $250.00
Foreign Air Mail $275.00

Individuals: United States $95.00
Foreign Surface Mail $120.00
Foreign Air Mail $145.00
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POSTMASTER send address changes to:

Subscription Dept.: 55 Old Post Road No. 2, P.O. Box 1678. Greenwich, CT 06836-1678.
(Europe and United Kingdom) 38 Tavistock Street, Covent Garden
London WC2E 7PB, England

Editorial Office: Center for International Education & Research in Accounting
320 Commerce West Building
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217-333-4545; 217-244-6565(fax)
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Editor: A.D. Bailey, Jr.

Back Issues: Information about availability and prices of back issues starting with Volume 31, Number 1 may be obtained from the publisher's order department (address above). Prior issues, please contact the editorial office.

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Volume 33 • Number 2 • 1998

Published by
JAI Press Inc.
Greenwich, Connecticut   London, England

For:
Center for International Education and Research in Accounting, University of Illinois at Urbana–Champaign

1997 Ad Hoc Reviewers

THE INTERNATIONAL JOURNAL OF ACCOUNTING

VOLUME 33 NUMBER 2 1998

ARTICLES

BOOK REVIEW

EDITORIAL COMMENT

As the editor of *The International Journal of Accounting* I have the opportunity to write the occasional editorial. I plan to use this opportunity sparingly. In my first editorial I placed my faith in the international research community to identify outstanding research topics and methods for the future. I believe that the research faculty should drive the academic research endeavor. I will try to remain open to researcher innovation and direction.

My role as editor effectively began in January 1997. I am writing this editorial after one year of editing experience with *The International Journal of Accounting*. I want to give you some idea about the rewards that come with the editorship of the *Journal*. However, I also want to discuss some of the problems my review board and I encounter in reviewing papers submitted for publication.

The rewards associated with the *Journal* editorship are immense. I am becoming much more attuned to the importance of international issues, the richness of the work and the unique difficulties associated with doing quality work in this arena. My regard for those who have chosen to make this their career commitment was always high, but rises daily. As a result of my *Journal* editorship I have attended a number of interesting meetings, met and spoken with many academic researchers committed to advancing international accounting research and international educational cooperation. The conversations have contributed to my education and understanding of international research issues.

I firmly believe that the economic globalization of business and accounting and the rising power of technology to knit our capital, labor, and production markets into a single market, means that international accounting research, broadly defined, will become a major factor in accounting research before the end of the next decade. The good news is that more academics will be interested in international research topics. The bad news is that the competition is going to be fierce. I think we will all benefit by this process.

All told, this last year as editor of *The International Journal of Accounting* has been one of the most rewarding of my academic career. I appreciate the support freely offered by many reviewers and authors and look forward to the coming year.

However, all is not well for some authors who wish to publish their international accounting research. In my last editorial I indicated that I relied on the authors to be innovative in identifying topics and applying sound methodologies. Further, I indicated that the reviewers and I would maintain an open mind with respect to innovation. Nevertheless, the *Journal* receives many manuscripts each year that cannot be accepted for publication. What is it that makes a manuscript acceptable for publication?

First and foremost is motivation. Authors who spend the time to motivate the international significance of their work early in their paper substantially improve their chances of a positive review. The editor and reviewers do not consider the fact that a paper was not written in the U.S., the editorial and publishing home of the *Journal*, as prima facie evidence that the paper qualifies as significant international accounting research. Author must take the time and make the effort to link their work to a significant international accounting problem and the relevant published literature. This is valuable to the author as it enhances the chance of acceptance or invitation to revision. It is important to the *Journal* reader because it contributes to their understanding.

Second, authors should develop or refer to a conceptual framework within which they expect interesting differences or interpretations within or between countries or jurisdictions due to the accounting issues addressed in the research. The authors who demonstrate that their work fits within the conceptual framework provide a reference point for the interpretation of their research results. Linkage to other countries or jurisdictions may be done by reference to other extant works or by actually applying the author's own method across national or other jurisdictional boundaries.

Some papers may be intrinsically interesting even though they address only a single country or jurisdiction. This may occur when a country makes changes in its accountancy standards or practices and a pre-post analysis becomes possible. Other possibilities do exist and many of them appear in the past issues of the *Journal*. So, we do publish papers restricted to a single country if there is an intrinsic international interest of some kind. Nevertheless, the author who makes the connections to the international accounting literature explicit improves the quality of the paper and its chance to influence future accounting developments.

Authors cannot rely on editors, reviewers and ultimately readers to make the necessary connections. We try to give advise on this matter when we can, however, if the author does not make the connection, it is asking a lot to obtain direction from the editor and/or reviewers. The author is the expert with respect to the research under consideration.

Third, the selection and application of appropriate research methods is important. I will not spend much time on the obvious fact that authors who apply the appropriate methods rigorously will likely receive encouragement if the paper is well motivated. The selection and careful application of any chosen research methodology is crucial to success. A well-motivated paper where the research is not competently implemented should not be published. Because of the obvious nature of this point and because there is an extensive research literature on the matter of individual methods, I will not address these matters further in this editorial.

Instead, I will comment on a few other matters of an editorial nature that can contribute significantly to the success of an otherwise well-motivated and implemented project. The structure of a paper and the proper use of English both contribute to the likely acceptance of a paper.

First, a well-constructed paper that uses the English language properly substantially improves its success potential. It does this because structure substantially improves the communications potential of the paper and its ability to communicate a coherent story. In fact, authors might find it useful to think about the construction of their paper as a process of telling a story about their research. The story should be told so that an intelligent person, not particularly knowledgeable about the author's work, can understand the basic points of the paper. One of the advantages of presenting papers at seminars and workshops prior to submission is to develop the story nature of the paper. The difficulty in properly structuring papers does not seem to be related to whether the author's first language is English.

Second, the proper use of the English language is important. Successful authors often take the time to obtain professional editing support prior to submission. I use editorial support on my own papers and often recommend that an author use an expert English language editor before resubmitting a paper. The reviewers and I recognize our responsibility to encourage those for whom English is a second or third language to write for our *Journal* audience. We are particularly prepared to work with authors who provide well-motivated and structured papers, but have some difficulty with English usage. Nevertheless, we are an English language journal and our reviewers are not likely to speak the first language of the author even if the reviewer's first language is not English.

We want to help authors because it is in our interest to do so. We want the best research possible published in *The International Journal of Accounting*. We will do our best because it is a shame when a perfectly good piece of work is rejected because the reviewers and editors could not decipher the research meaning of the paper due to any of the above problems.

The competition for outstanding international accounting research is growing. There are more accounting journals willing to publish quality international research today than ever before and the number is growing. We at *The International Journal of Accounting* are pleased by this recognition of the importance of international accounting research issues. We seek to be your journal of first choice when submitting papers. We will work with you to bring your research to a publishable level. Give us the opportunity to consider your next international accounting research effort.

Andrew D. Bailey, Jr.
Editor, TIJA

The International Journal of Accounting

The Quest for International Accounting Harmonization: A Review of the Standard Setting Agendas of the IASC, US, UK, Canada, and Australia, 1973-1997

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Key Words: Harmonization; Accounting Standard Setting Process; Anglo-American Accounting Model; G4+1; IASC; International Accounting Standards

Abstract: *For 1973 through 1997, the research examines the evolution of accounting standards to ascertain the extent of similarities and differences in financial reporting practices among the IASC and national standard setters in the US, UK, Canada, and Australia. Collective and individual efforts aimed at minimizing differences to achieve harmonization/compatibility are discussed. The impact of the IASC's modified philosophy for the 1990s, specifically its cooperative endeavors with the G4 standard setters on agenda coordination and harmonization/compatibility of accounting standards, is also investigated.*

During the 1970s and 1980s, the IASC, US, UK, Canada, and Australia achieved accounting standard compatibility in very few areas. Successes included the funds flow statement and leases. This failure to make significant progress toward harmonization/compatibility can be linked to limited agenda coordination and cooperation between the IASC and national standard setters. The research also reveals that significant periods of time, of as much as two decades or more, passed before the IASC and Anglo-American standard setters attained some form of consensus on agenda items initiated during the IASC's first two decades.

The IASC and Anglo-American standard setters entered the 1990s better equipped than in prior decades to engage in cooperative endeavors. By focusing on common themes in their conceptual frameworks and adopting a philosophy of harmonization via cooperation, the IASC and G4 have made considerable progress. Areas where the five standard setters have achieved consensus, or are close to achieving concurrence, include several projects initiated during the 1970s and 1980s. These projects include investments in associates, interim reporting, business combinations, joint ventures, deferred taxes, and pensions. In addition, projects launched by the G4+1 members during the 1990s have often produced compatible standards (or proposals) on a relatively timely basis. Examples include financial instruments, EPS, segment reporting, and comprehensive income. The research also reveals a few areas where consensus has not been achieved, such as accounting for the correction of errors, R&D, and interest capitalization.

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The International Journal of Accounting, Vol. 33, No. 2, pp. 179-209 **ISSN: 0020-7063.**

Several objectives underlying the goal of accounting standard harmonization have been achieved in the 24 years since the International Accounting Standards Committee (IASC) was founded. Yet, true harmonization has been hindered by many factors. Accounting systems are developed and fostered within a nation's unique environment, which includes different socioeconomic factors, educational and legal systems and cultural mores. Plus, accounting systems do not evolve uniformly or simultaneously (Radebaugh & Gray, 1997). Accordingly, significant differences exist between International Accounting Standards (IASs) and the national standards of the IASC membership.

Researchers often refer to the Anglo-American accounting model that is practiced in the United Kingdom (UK), United States (US), and other countries where the UK has had a major colonial influence. The impact of the Anglo-American model on the IASC's work is evident. As reflected in the conceptual frameworks of the IASC, the US, UK, Canada and Australia, these standard setters share "the objective of providing quality financial standards for the primary purpose of providing information useful to capital market participants" (Paul, 1997, p. III). However, despite a common conceptual goal, notable contrasts exist between IASs and the standards of those countries using the Anglo-American model.

Initially the IASC worked independently of national standard setters. However, in 1990 the IASC elected to work towards greater compatibility between national accounting requirements and the removal of differences between national requirements and IASs. A 1980 IASC resolution, which provided the basis for participation with groups of national standard setters, was reaffirmed in 1993. The resolution stated:

> Because members have agreed that IASC is the appropriate forum for the development and publication of international accounting standards, ... IASC requests member bodies to use their best endeavors to ensure that the IASC board is kept fully informed of all initiatives within their country towards the development of accounting standards and that, when any discussions on accounting standards are proposed between two or more countries ... IASC is invited to participate ... (IASC, 1993, p. 1)

Based on the IASC's revised philosophy for the 1990s, a cooperative effort of the IASC and those organized national standard setters whose standards were universally recognized was initiated to facilitate harmonization (Carsberg, 1996). Among the most likely candidates to work with the IASC were standard setters from the US, UK, Australia, and Canada, especially in view of each entity's commitment towards harmonizing standards and their strikingly similar conceptual frameworks.

The current research examines the evolution of accounting standards, since the formation of the IASC in 1973, to ascertain the extent of similarities and differences in financial reporting practices among the IASC and standard setters in the US, UK, Canada, and Australia. Efforts to minimize differences to achieve harmonization are discussed. The impact of the IASC's modified philosophy for the 1990s, specifically with respect to cooperative endeavors with the Anglo-American standard setters on agenda coordination and harmonization/compatibility of accounting standards, are also investigated.[1]

In 1993, the Australian Accounting Standards Board (AASB), Canadian Accounting Standards Board (AcSB), Financial Accounting Standards Board (FASB), and UK

Accounting Standards Board (ASB) began work on a project with the IASC. Together, this Group of 4+1 (G4+1) produced *Future Events: A Conceptual Study of Their Significance for Recognition and Measurement* (Johnson, 1994). As a result of this successful endeavor, the IASC desired to continue to coordinate agendas with the G4 (Carsberg, 1996). Initially, the G4+1 focussed on agreeing to broad principles. By formulating a consensus view, the G4+1 arrives at a basis upon which each standard setter can write its own individual standard. Working together on common problems assists the G4+1 in achieving its goal of harmonizing the members' individual standards. Recently, the G4+1 members committed to jointly develop the group's first accounting standard (Cairns, 1997a). The current research ascertains the success of the G4+1 in improving compatibility of national accounting standards and IASs.

METHODOLOGY

For 1973–1997, the IASC and Anglo-American agendas are reviewed to ascertain the success these standard setters have made toward achieving harmonization. Data were collected for projects in progress in 1973 and those beginning in or after 1973. In 1973, the IASC and FASB were formed, and the current standard-setting bodies in Australia, Canada, and the UK were formed post-1973. Therefore, the data include all major projects addressed by the G4+1 members plus some addressed by predecessor bodies.[2]

For each project, data were collected regarding the year each standard setter placed the item on its agenda and issued relevant documents such as discussion papers (DPs), exposure drafts (EDs) and final standards. All projects examined are the subject of an IAS, or on the IASC's agenda, and have also been considered by a majority of the Anglo-Americans, including conceptual framework projects. Industry standards and standards dealing exclusively with disclosures are excluded.

Data sources include: *International Accounting Standards 1997* {Table on History of IASs and EDs},[3] *IASC Insight* {the IASC newsletter}, IASC annual reports, the IASC World Wide Web Home Page;[4] *Financial Accounting Series Status Report* {the FASB newsletter}, Financial Accounting Standards (FASs) {Background Information Appendix for each standard}, FASB's (1997a) World Wide Web Home Page; Ernst & Young's *UK GAAP* (Davies et al., 1994),[5] ASB press releases, *Inside Track* {the ASB newsletter};*Australian Accounting Handbook* {project chronology preceding each standard}; and a list of Canadian EDs with publication dates {provided by Canadian Institute of Chartered Accountants (CICA)}, the 1996 *Canadian Accounting Handbook*, and the CICA World Wide Web Home Page, for the IASC, US, UK, Australia, and Canada respectively.

Analysis

Table 1 summarizes the standard setters' agendas and indicates the time required to achieve consensus for each financial reporting topic. Highlighting is used to indicate the release of a standard that adopted the majority view. For on-going projects, release of an ED reflecting the consensus view is indicated by black print on white. To identify the philosophy endorsed by each standard setter, the relevant literature was reviewed. Table 1

Table 1. Agendas of IASC and National Standard Setters from the US, UK, Canada and Australia: 1973-1997

COMPATIBILITY

Panel A **Funds Statement**

	Pre-73							Lag (yrs)
US	63-APB3 71-APB19							
CAN		73-ED	74-#11					11
UK		74-ED13	75-SSAP10					12
IASC		76-E7	77-IAS7					14
AUS		79-AARF DP	80-ED16	83-AAS12	85-AAS12A 85-ED32	87-AAS12R	89-AAS12A	20
Aus asrb		86-R407 86-1007 87-R410						

Replaced by the cash flow statement in late 80's and early 90's.

Panel B **Leases**

	Pre-73													Lag (yrs)
US	49-ARB38 APB5,7 APB27,31 71-SEC	73-AGD	74-DM	75-ED	76-FAS13	77-FAS17A13 77-ED	78-FAS22 78-FAS23A13 78-ED	79-ED 79-FAS26A 13 79-FAS27A 13 79-FAS28A 13 79-ED 79-FAS29A 13	81-RR	85-ED	86-FAS91A 86-FAS91S	87-AGD 87-ED	88-FAS98A 13 88-FAS98S 26	96-G5+1	
CAN		78-ED 78-#28	96-G5+1												2
IASC		80-E19	82-IAS17	95-RF IAS17	96-AGD	97-ED56	97-G5+1								6
AUS		79-DP1	80-ED17	84-AAS17	86-ED36	87-AAS17R	88-AAS17A	96-G5+1	ED82						8
Aus asrb		85-R404	86-1008	87-1008R											
UK		81-ED29	84-SSAP21	91-AGD	96-G5+1										8

Similar standards, after 8 years, regarding capitalization. Differences to be reduced pending tightening of IAS. Aus leading a project to develop "a new approach" to replace existing rules.

Panel C **Contingencies & Provisions**

	Pre-73						Lag (yrs)
US	43-ARB43 ARB50	73-AGD	74-DM 74-ED	75-FAS5 75-ED 75-FAS11A 5	95-G4+1		
IASC		77-E10	78-IAS10	95-RF IAS1 95-DP 95-G4+1	96-AGD/UK 96-DSOP	97-E59	3
CAN		77-ED	78-#25	93-ED	95-G4+1		3
UK		78-ED23	80-SSAP18	95-G4+1 95-DP	96-DSOP W/ IASC	97-FRED14	5
AUS		92-SAC4	95-G4+1				17

Similar standards after 17 years. Further advancement likely via G4+1 effort led by IASC & UK. Canada and US considering related issues

Panel D Extraordinary Items

	Pre-73									Lag (yrs)	
CAN	69-s3480	89-ED 89-#64	96-#87								
US		73-APB30								4	Similar standards regarding separate disclosure after more than two decades
UK		74-SSAP6	85-ED36	86-SSAP6R	91-FRED1	92-FRS3				5	
AUS	70-D1 A	73-DS1.2 R	74-DS1.2R	79-AAS1Re	81-AAS1A	83-DP	85-AAS1A	89-AAS1A Re Ft1	95-AAS1A	20	Ft1 Major changes included modifications to the definition of extraordinary items
Aus asrb		89-R416 89-1018	92-1018R								
IASC		76-E8	78-IAS8	92-E46	93-IAS8R(CP)					24	

COMPATIBILITY PENDING COMPLETION OF CURRENT AGENDA ITEMS

Panel E Investment in Associates

	Pre-73									Lag (yrs)
UK	71-SSAP1	90-ED50	94-DP	96-FRED11						
US	71-APB18									
CAN		73-#25	77-ED	78-#25R						2
IASC		74-E3	76-IAS3	86-E28	89-IAS28S 3	95-RF IAS28	97-#93			18
AUS	71-ED	73-ED5	79-ED12	83-AAS14	84-AAS14A	86-AAS14R	87-AAS14A	95-ED71	Ft1	26+
Aus asrb		87-R414	88-1016	89-1016R						

Endorsement of equity method by all members pending removal of legal impediment in Australia after 26+ years. AUS currently has supplemental disclosure of equity method information.
Ft1 An Australian standard is expected in 1997.

Panel F Interim Reporting

	Pre-73			Lag (yrs)
CAN	71-#6			
US		73-APB28		2
Aus asrb		94-1029		23
IASC		96-DSOP	97-E57	26+
UK		96-AGD	97-Ft1	26+

Compatibility with IASC (at least bi-annual) assuming completion of UK and IASC projects, after 26+ years

Ft1 The UK Issued a Best Practices Statement in 97

Panel G Joint Ventures Equity Method

	Pre-73							Lag (yrs)
US	71-APB18	96-G4+1						
UK	71-SSAP1	83-SSAP1A	90-ED50	94-DP	96-FRED11 96-G4+1			26+
AUS		84-ED25	85-DP9 85-AAS19	86-AAS19R	96-G4+1	97-ED79		26+
Aus asrb		85-R405	86-1006					
IASC		86-E28	89-E35	90-IAS31*	95-RF IAS31	96-G4+1		26+
CAN		75-ED	77-s3055#22 77-RED	91-3055R	93-ED	94-#81*	96-G4+1	26+

No consensus after 26+ years. Compatibility may result via G4+1 project with the G4+1 voting unanimously in 1997 to endorse equity method.

* Proportional Consolidation Benchmark (Equity Alternative)

Panel H — Discontinued Operations

	Pre-73				Lag (yrs)
US		73-APB30			
CAN		89-ED	96-#87		16
		89-#64			
UK		85-ED36	86-SSAP6R	92-FRS3	19
IASC		93-IAS8R (CP)	95-AGD	96-DSOP	24+
AUS		94-AGD			24+

Similar requirements after 24+ years pending completion of IASC and Australian projects

Panel I — Business Combinations

	Pre-73							Lag (yrs)
CAN		74-#10	Ft1					
AUS		84-DP8	85-ED 85-AAS21	94-ED61				11
Aus asrb			86-R408	R413	88-1015	91-1015A		
IASC		81-E22	83-IAS22	92-E45	93-IAS22(CP)	97-ED61		19
UK		82-ED31	85-SSAP23	90-ED48	93-FRED6	94-FRS6	Ft2	20
US	70-APB16	96-AGD	97-SR					23+

Similar standards after 23+ years regarding restricted use of pooling assuming tightening of US rules on pooling.
FASB coordinating work with other members of G4+1.
Ft1 Can announced in 1997 its plans to harmonize with FASB's position on business combinations
Ft2 In conjunction with FRS6, ASB issued FRS7 on fair values in acquisition accounting.

Panel J — Consolidated Accounts

	Pre-73								Lag (yrs)
CAN		73-ED	74-RED	75-#14	77-ED	78-#25	90-ED	91-#72	
IASC		74-E3	76-IAS3	87-E30	89-IAS27S 3	95-RF IAS27			14
UK		78-SSAP14	90-ED50	92-FRS2					17
AUS	71-ED	87-ED40 87-DP10	90-AAS24	91-AAS24R	92-AAS24R	Ft1			17
Aus asrb		91-1024	92-1024R						
US	59-ARB51	82-AGD	86-ED	87-FAS94A ARB51& APB18	91-DM	95-ED-	96-AGD 96-DM		22+

Similar standards after more than two decades with consolidation based on control assuming completion of US project.

Ft1 AUS is expected to issue an ED in 1997

Panel K — Foreign Currency

	Pre-73								Lag (yrs)
US	ARB43 APB6	73-FAS1	75-FAS8S 1	77-FAS20A	79-AGD	80-ED	81-RED 81-FAS52S 1,8,20		
UK			75-ED16	77-ED21	80-ED27	83-SSAP20			2
AUS		73-ED4	79-ED10	83-ED24	85-AAS20	87-AAS20R	Ft1		6
Aus asrb		85-R406	86-R411	87-1012	88-1012R				
IASC		77-E11	82-RE23	83-IAS21	92-E44	93-IAS21S(CP)			12
CAN		77-ED	78-#26	82-ED	83-#42	93-ED	96-RED	Ft2	16+

Broadly similar standards for US, UK, AUS, & IASC. CAN, whose 1983 standard has several inconsistencies with the other parties, aims to minimize differences with the US.
Ft1 An exposure draft is expected in AUS in 1997.
Ft2 CAN voted in 97 to delay action on foreign currency and will cover the topic as a part of its Financial Instruments project.

Panel L — Conceptual Framework

	Pre-73													Lag (yrs)
US	61-ARS1 62-ARS3 70-APB#4	TRBLD RPT	74-DM	76-DM	77-ED	78-RR 78-SFAC1	79-DM 79-ED 79-RED	80-SFAC2 80-SFAC3 80-DM 80-RR	81-RR 81-ED	82-RR	83-ED	84-SFAC5	85-RED 85-SFAC6S SFAC3	
IASC		88-ED	89-FW											4
CAN		88-ED	89-#59	90-ED	91-#70									6
AUS		82-ATM2	84-ATM4 84-ED26	85-ATM5 85-SAC1 85-FWD	87-ED42A 87-ED42C 87-ED42D	88-ED46A 88-ED46B	89-ED48	90-R100R 90-SAC3 90-SAC1R 90-SAC2 90-G 90-ED51A 90-ED51B 90-PiersonRpt 90-APS1	92-SAC4	95-APS5 95-SAC4Re 95-APS1Re				7
UK	71-SSAP2	75-DP	90-AGD	91-DSOP1,2 91-DSOP6 91-FRED1	92-DSOP3,4	93-DSOP5 93-DP	94-DSOP7 94-DP	95-DSOP 95-ED Form	96-Progress Paper					12+

Harmonization on objectives, qualitative characteristics, and definitions of elements pending issuance of UK FRED as a final document. UK's advancement of recognition and measurement may lead others to revisit these issues.

Panel M — Pensions & OPEBs

Pensions	Pre-73											Lag (yrs)
US	53-ARB43 56-ARB47 66-APB8	74-AGD	75-DM	77-ED	79-RED(35) 79-ED(36)	80-SFAS35 80-SFAS36A APB8	81-DM	83-DM 83-SFAS74 83-SR	85-Eds 85-FAS87 APB8,36 85-FAS88S 74	92-ED 92-FAS110A 35	97- ED	
CAN	68-s3460	73-S3460r	74-AGD	85-ED	86-#50	88-ED	90-#65	97-ED				1
IASC		80-E16	83-IAS19	85-E27	87-IAS26	92-E47	93-IAS19R(CP)	94-AGD	95-RF IAS	96-E54		8+
UK		82-NapierRpt	83-ED32	86-ED39	88-SSAP24	95-DP	Ft1					12+
AUS		94-AAS30	96-AGD									12+
Aus asrb		94-1028										

Similar standards endorsing accrued valuation benefit method for US, Can, IASC benchmark with Australia coming in line pending completion of current project. Completion of IASC current project will move it more in line with the North American approach, after 12+ years. On the UK's agenda, but the ASB's preferred approach may be out of line with other parties.

Ft1 A FRED is due out in 1997

OPEBs	Pre-73						Lag (yrs)
US		84-AGD 84-ED 84-SFAS81	89-ED	90-FAS106S 81	92-ED 92-FAS112A 5,43	97-ED	
UK		89-TR756	92-UTIF Abst6				2
AUS		Ft1					7+
IASC		96-AGD					7+
CAN		96-AGD	97-ED				7+

Only US has a specific standard. UK UTIF ruling refers to US rule. IASC, AUS & CAN projects will likely be in line with US approach after 7+ years.

Ft 1 Australia is expected to issue an ED in 1997

Panel N **Deferred Tax**

	Pre-73										Lag (yrs)
US	67-APB11	80-FAS37A APB11	82-AGD	83-RR 83-DM	86-ED	87-FAS96S APB11	88-FAS100P 96	89-GUIDE 89-FAS103P 96	91-ED 91-FAS10 96	92-FAS109S 96 92-GUIDE	
AUS	70-D4R	74-DS4A D4	76-DS4R	78-DS4A	79-AAS3 A DS4	81-ED19	89-ED47 89-AAS3Re	95-DP	96-ED74 Ft1	Ft2	2
Aus asrb		89-R416 89-1020									
IASC		78-E13	79-IAS12	87-AGD	89-E33	94-RE49	95-RF IAS12	96-IAS12S			9
UK		73-ED11	75-SSAP11	77-ED19	78-SSAP15	83-ED33	85-SSAP15R	92-SSAP15A	95-DP	Ft3	10+
CAN	67-AARC	73-#9	88-ED	96-ED	Ft4						10+

Ft1 A comprehensive review of this topic by the AARF is being implemented
Ft2 An AUS ED is expected in 97
Ft3 A UK DP is expected in 1997
Ft4 AcSB approved a new handbook section (s3465), subject to a written ballot.

Liability method with comprehensive allocation in US, Aus, and IASC. Canada will adopt IASC/US approach during 1997. UK has noted comprehensive allocation is now the only international accepted approach.

Panel O **Cash Flow Statement**

	Pre-73						Lag (yrs)
US		85-AGD	86-ED	87-FAS95S APB19	88-AGD 88-ED	89-FAS102A 95 89-AGD 89-ED 89-FAS104A 95	
UK		90-ED54	91-FRS1	95-FRED10	96-FRS1R		4
AUS		91-ED52 91-AAS28					5
Aus asrb		86-R410	91-1026	97-ED77			
IASC		91-E36	92-IAS7S				5
CAN		84-ED	85-#48	96-ED	97-ED		10+

Harmonization, after a decade, assuming Canadian ED becomes a standard.

Panel P **Impairment**

	Pre-73						Lag (yrs)
CAN		90-#67					
AUS		91-AAS10Re	93-AASRe	95-AAS10Re			1
Aus asrb		91-1010A	93-1010A				
US		88-AGD	90-DM	93-ED	94-SP	95-FAS121	5
UK		96-DP	97-FRED15				7+
IASC		96-AGD	97-ED55				7+

Similar standards, after 6+ years, pending completion of UK & IASC projects. Further move towards harmonization via G4+1 project led by AUS.

Panel Q **Financial Instruments**

	Pre-73									
US		86-AGD	90-DM	91-DM	92-EDS 92-FAS110	93-FAS114 93-FAS115	94-FAS118	95-G4+1	96-ED 96-FAS125	97-ED
IASC		95-G4+1	97-DSOP							
UK		94-AGD	95-G4+1	96-DP						
CAN		95-G4+1	Ft1							
AUS		95-G4+1	Ft2							

Cooperation indicates similar standards may be issued. Currently, no final standard has been issued
Ft1 IASC issued a DSOP in 97 based on a joint project with Canada
Ft2 ASCPA has requested AASB issue the IASC DSOP as an Australian DP

Panel R **Comprehensive Income**

	Pre-73							Lag (yrs)
UK		91-DP 91-FREDI	92-FRS3	Ft1				
AUS		92-AAS1R	95-AAS1Re	96-ED	Ft2			
Aus asrb		92-1018R	95-1018Re					
IASC		91-E41	93-IAS8R(CP)	95-DSOP	96-E53			1
US		79-DM	80-SFAC3	84-SFAC5	95-AGD	96-ED	97-FAS130	5+
CAN		96-AGD						5+

Similar standards, after 5+ years, pending completion of IASC, US & CAN project. Further harmonization pending work on G4+1 project led by US & UK.

Ft1 The UK is working with the US & other G4+1 members to harmonize presentation of comprehensive income.
Ft2 Australia is expected to issue an ED in 1998

Panel S **EPS - US/IASC Approach**

	Pre-73							Lag (yrs)
AUS		Ft1						
Aus asrb		92-1027						
IASC		90-AGD	93-DSOP	94-SOP	96-E52	97-IAS33		5
US	69-APB15	81-AGD	82-FAS55A APB15	92-FAS111S 55	94-AGD	96-ED	97-FAS128	5
UK	71-ED4 72-SSAP3*	96-DP	97-FRED16					5+
CAN	70-s3500*							5+

Similar standards for IAS, US, & AUS who worked concurrently. UK considering IASC approach in interest of international harmonization. Given Canada's commitment to harmonize with IASC & US, harmonization likely in near future.

Ft1 Australia plans to issue an ED based on IAS 33

* Traditional Approach

Panel T **Marketable Securities: Market**

	Pre-73					Lag (yrs)
US		75-FAS12*	91-AGD	92-ED	93-FAS115S12	
UK	72-ED7	90-ED55	96-AGD			4+
IASC		84-E26	86-IAS25*	95-RF IAS25	96-AGD	4+
CAN	#8*					?
AUS		88-AGR9&10*				?

Harmonization regarding writing down securities when market is less than cost, after more than 2 decades. US has initiated trend of carrying at market and may soon be joined by IASC & UK. AUS & CAN's commitment to harmonization indicates consensus in the near future.
* Lower of Cost or Market

Panel U **Segment Reporting: Management Approach**

* Traditional Approach

	Pre-73											Lag (yrs)
IASC		80-E25	81-IAS14*	92-AGD	93-DSOP	95-RF IAS14 95-DSOP 95-E51	97-IAS14R					
US	69,70-SEC	73-AGD	74-SFC 74-DM	75-ED	76-FAS14*	77-ED 77-FAS18A14	78-ED 78-FAS24A14	79-ED 79-FAS30A14	82-AGD	93-RR	96-ED-CAN 97-FAS131	
CAN		78-ED	79-#30*	93-s1700R	96-ED	97-R93						
UK	65-London Exchange	88-ED45	90-SSAP25*	96-DP								
AUS		80-DP4	83-ED22	84-AAS16*	87-AAS16R							
Aus asrb		86-R408 86-1005	Ft1									

UK considering similar standards in interest of international harmonization. AUS plans to issue an ED based on the IAS.

Ft2 An ED is expected from AUS based on the IASC standard.

COMPATIBILITY LIKELY PENDING COMPLETION OF PRESENT PROJECTS

Panel V — Accounting Changes

	Pre-73					Lag (yrs)
CAN	69-s3600	79-ED	80-#34	95-ED	96-#87	
US	71-APB20					
UK		74-SSAP6	91-FRED1	92-FRS3		
IASC		76-E8	78-IAS8	92-E46	93-IAS8R(CP)	
AUS		89-AAS14	92-AAS1R	Ft1		
Aus asrb		89-R416 89-1018				

Can & UK harmonize with IASC benchmark. US and Aus. Compatible with IASC allowed alternative. Resolution of presentation and comprehensive income projects may lead to G4+1 consensus.

Ft1 Principle change was relating to extension of "retained earnings adjustment" provisions relating to initial adoption of AAS.

Panel W — Error Corrections

	Pre-73							Lag (yrs)
CAN	71-s3600	79-ED	80-#34	95-ED	96-#87			
UK		74-SSAP6	83-DP	85-ED36	86-SSAP6R	91-FRED1	92-FRS3	3
US		76-ED	77-FAS16					6
IASC		76-E8	78-IAS8	92-E46	93-IAS8R(CP)			22
AUS		89-AAS1R	92-AAS1R	95-AAS1A	Ft1			
Aus asrb		89-R416 89-1018	92-1018R					

Harmonization with IASC benchmark of adjusting retained profits AUS compatible with IASC alternative of including in income. Resolution of presentation & comprehensive income project may lead to G4+1 consensus.

Ft1 An ED is expected in Australia in 1998.

Panel X — Goodwill

	Pre-73										Lag (yrs)
US	70-APB17										
UK		80-DP	82-ED30	84-SSAP22	89-SSAP22R	90-ED47	93-DP	95-WP	96-FRED1	97-FRED15	
AUS		83-ED23	84-AAS18	89-ED49	95-ED68	96-AAS18R	Ft1				
Aus asrb		87-R412	88-1013	96-1013R							
IASC			81-E22	83-IAS22	89-AGD	93-IAS22(CP)	94-DSOP 94-SOP	95-E50	97-E60		
CAN		73-#10									

Ft1 Australia will issue an exposure draft in 97.

NO PROGRESS TOWARDS COMPATIBILITY

Panel Y — Interest Capitalization

	Pre-73								Lag (yrs)
US		74-AGD	77-DM	78-ED	79-FAS34	80-ED 80-FAS42A34 80-AGD	81-ED 81-ED	82-FAS58A34 82-FAS62A34	
IASC		82-E24	84-IAS23	91-E39	93-IAS23R(CP)				
CAN		86-ED	87-#54						
AUS		97-ED75							
UK		96-DP							

CAN follows IASC benchmark. US follows, and AUS proposes to follow IASC alternative. Compatible with IASC with exception of no UK standard.
No harmonization after 18 years.

Panel Z — R&D

	Pre-73							Lag (yrs)
US		75-ED14	76-RED17	77-SSAP13	87-ED41	89-SSAP13R		
CAN		77-ED	78-#25	Ft1				1
IASC		77-E9	78-IAS9	91-E37	93-IAS9S(CP)			1
AUS		80-DP5	82-ED21	83-AAS13	Ft2			6
Aus asrb		86-R408	87-1011					
US	APB17,22	73-DM 73-AGD	74-ED 74-FAS2	81-AGD	82-ED 82-FAS58			

UK, CAN and AUS compatible with IASC benchmark.
US outlier with requirement that development costs be expensed.

Ft1 Canada has announced its intention to harmonize with the US in R&D

Ft2 An ED is expected from Australia in late 1997.

Key:

A - Amended	ED - Exposure Draft	RED - Reexposure Draft
AAS - Australian Actg. Std	FAS - Stmt of Financial Actg. Std	REC - Recommendation
AGD - Agenda	FRED - Fin Rept'g Exposure Draft	Rel - Release
APB - Actg Prin. Board Opinion	FW - Framework	RF - Reformatted
ARB - Actg. Research Bulletin	G - Guide	RR - Research Rept
ARS - Actg. Research Study	IAS - Int'l Actg. Std.	S - Superceded
ATM - Actg. Theory Monograph	IG - Implem Guide	s - Handbook section no.
Compatible Standard	P - Postponed	SSAP - Stmt. Std. Actg. Practice
Compatibility Forthcoming	PAAS - Provisional Actg Std	SR - Special Report
CP - Comparability Project	PED - Prelim. ED	TB - Technical Bulletin
DP - Discussion Paper	Pd - Pol Disc	TR - Technical Release
DM - Discussion Memo	PV - Preliminary Views	W - Withdrawn
DSOP - Draft Stmt of Principles	R - Revised	WP - Working Party
E - Exposure	Re - Reissue	# - Canadian Release number
		* - Alternative Accounting Approach

indicates where the standard setters: 1) achieved compatibility (in order of consensus), 2) are working towards compatibility pending completion of current agenda items (beginning when the first standard addressing the current philosophy was issued), and 3) have not achieved consensus.

RESULTS AND INTERPRETATION

Based on Table 1, the chronology of standard-setting activity for each project is reviewed, and the current status of compatibility/harmonization is discussed. Discussion follows the order of Table 1 with one exception; given the overlapping nature of the topics, funds flows and cash flow statements are combined.

Harmonization/Compatibility Achieved

Funds Statement (Panel A)/Cash Flow Statement (Panel O)

Prior to adopting a cash flow statement, the Anglo-Americans experimented with a funds flow statement. The US Accounting Principles Board (APB) addressed the funds statement in 1963. Canadian R#11, SSAP 10, IAS 7, and AAS 12 were issued in 1974, 1975, 1977, and 1983 respectively, and each required a funds statement.

The focus changed in 1987 when FAS 95 initiated a worldwide trend by requiring a cash flow statement (see O'Bryan, 1989). The UK {FRS 1} and Australia {AASB 1026/AAS 28} followed the US model in 1991. And, the revised IAS 7 {1992} is virtually identical to FAS 95. Moving more in line with IAS 7R, Australia issued ED 77. Canada plans to adopt IAS 7R with only minor changes (CICA, 1997b). Completion of the Australian and Canadian projects should yield compatibility among the G4+1.

Leases (Panel B)

Today, the G4+1 members have similar leasing standards. In 1976, the US's FAS 13 first adopted a substance-over-form approach for leases. Similar standards followed with Canada's 1978 R#28, 1984's SSAP 21, and 1984's AAS 17 (Skinner, 1987; Davies, et al., 1994; Godfrey & Warren, 1995). While conceptually similar to the US rules, the guidance in 1982's IAS 17 is broader and application often requires judgmental determinations (FASB, 1996). To address concerns expressed by the International Organization of Securities Commissions (IOSCO), the IASC (1997a) is reviewing IAS 17. A 1997 ED focuses on enhanced disclosure requirements and the elimination of the free choice of methods for lessors to recognize finance lease income. The modifications will bring IAS 17 more in line with SFAS 13. Australia's 1997 ED 82 proposes revisions consistent with IASC ED 56.

In 1996, the G5+1's (with New Zealand) *Accounting for Leases, A New Approach* (McGregor, 1996) proposed that all non-cancelable leases should be capitalized. Australia and the UK plan to jointly revise their standards based on the G5+1 DP, and the IASC also plans to eventually adopt this approach.

Provisions and Contingencies (Panel C)

The G4+1 members have similar rules for provisions and contingencies. FAS 5 {1975} addresses disclosure and recognition of contingent liabilities/assets. In 1978, the IASC and Canada issued similar standards, and SSAP 18 followed in 1980. Minor disclosure differences exist, and the US has the most extensive requirements (Skinner 1987; Davies, et al., 1994; CICA, 1997a). Australia's guidelines are also similar to FAS 5 and are addressed in the Appendix to SAC 4 {1992, paras. 18–19} (Ryan & Heazlewood, 1997).

Currently, the G4+1 are reconsidering provisions. The G4+1 DP *Provisions: Their Recognition, Measurement, and Disclosure, in Financial Statements* was aimed at developing a common conceptual understanding to enhance the prospect of harmonization (Lennard & Thompson, 1995). Such an understanding was vital in that the IASC, Canada, the UK, and the US were considering related issues.

Building on the G4+1 DP, the IASC and UK undertook a joint project that led to 1997's IASC ED 59 and FRED 14. These EDs argue that provisions are liabilities and should be recognized only if there is a present obligation to transfer economic benefits as a result of past events. In addition, provisions should be recognized at the best estimate of the amount required to settle the obligation that existed at the balance sheet date (IASC, 1997b; ASB, 1997a). Completion of the IASC/UK project may lead to similar guidelines for all G4+1 members, thereby enhancing comparability and minimizing abuses in areas such as accounting for future operating losses and restructuring costs.

Extraordinary Items (Panel D)

The G4+1 members have similar guidelines for reporting extraordinary items. In 1969, Canada's s3480 {replaced by R#64 in 1989} required that extraordinary items be reported as a separate component of income. In 1996, s1520 {R#87} noted that the income statement should clearly distinguish income before discontinued operations and extraordinary items. The US's 1973 APB 30 defines extraordinary items and also requires they be disclosed as a separate component of income.

SSAP 6 {1974, revised in 1986} distinguished between ordinary and extraordinary items of profit and loss (P&L). Under SSAP 6, extraordinary items were more prevalent in the UK than in the US. FRS 3 {1992} now defines extraordinary items in a manner that is broadly similar to the US; however, the new UK standard has effectively outlawed extraordinary items.

IAS 8 {1978} addressed reporting unusual items. IAS 8 was revised in 1993 via the Comparability Project (CP). Under the revised standard, P&L is split between ordinary operating activities and extraordinary items.

AASB 1018 was approved in 1989. Modifications to AASB 1018R in 1992 were undertaken to achieve greater consistency between Australia and definitions in the UK, US, and Canada and to achieve a reduction of alternative treatments for similar items (Ryan & Heazlewood, 1997).

All G4+1 members require separate disclosure of extraordinary items. While all members define extraordinary items in a consistent manner (AASB, 1994), only the Canadian definition specifies that classification of extraordinary items does not depend on managerial or owner's decisions.

Compatibility Pending Completion of Current Agenda Items

Investments in Associates (Panel E)

Most G4+1 members' standards endorse the equity method of accounting for investments in associates. The US's APB 18 and the UK's SSAP 1,[6] both issued in 1971, require the equity method. In the US, the equity method is used when an investor is able to exercise significant influence (a 20% or more voting interest) over an associate. Under Canadian s3050 {1973, revised in 1978}, the equity method is also employed when an investor is able to exercise significant influence. Holding at least a 20% voting interest is a necessary, but not sufficient criterion, for significant interest (see CICA, et al., 1994 for US comparison). While IAS 28 {superseded IAS 3 in 1989} prescribes the equity method, the disclosure requirements for investments in associates fall short of US requirements.

In contrast to the UK, US, Canada, and IASC, equity data in Australia appear only in footnotes or as a third column adjacent to consolidated accounts. AAS 14 {1983} was preceded by three EDs (Gordon & Morris, 1996) proposing equity accounting. However, a legal impediment obstructed the issuance of a standard. ED 71 {1995} proposes that equity accounting be applied in consolidated accounts. A standard is expected in 1997, dependent upon proposed legislation (Ryan & Heazlewood, 1997). Assuming passage of the Australian proposal, G4+1 standards regarding investments in associates will be compatible in that all will permit the use of the equity method. Harmonization may be further facilitated by a G4+1 project led by Canada and the UK addressing equity accounting and joint ventures.

Interim Reporting (Panel F)

Soon all G4+1 members will provide guidelines regarding the preparation of interim reports. Quarterly interim reports are currently prepared in Canada and the US. In 1971, Canada's s1750 {R#6} required presentation of interim data and noted that such reports are normally prepared quarterly. In the US, guidance for preparing interim reports, which are required by the SEC, is presented in 1973's APB 28. While the Canadian (discrete method) and US (integral method) standards differ conceptually, neither rigorously adheres to a single concept; therefore, the standards are not seriously at odds (Skinner, 1987).

Quarterly reporting is not as widely practiced outside of North America. For example, Australia's AASB 1029 {1994} requires half-year accounts (Ryan & Heazlewood, 1997). In the UK, the normal frequency of reporting is also biannually (Davies, et al. 1994). An ASB "best practice" standard {1997} provides guidance on the preparation of interim reports and states a preference for the discrete method. The IASC's 1997 ED 57 presents guidelines similar to the UK recommendations. ED 57 notes that national regulators should decide whether interim reports are required, and, if so, the frequency of publication. Thus, all members of the G4+1 will soon provide guidance on the preparation of interim reports.

Joint Ventures (Panel G)

Currently, the G4+1 members disagree regarding joint ventures. While the US's 1971 APB 18 generally requires that the equity method be used for joint ventures, proportional consolidation is more popular outside the US. A 1994 revision of s3055 {added in 1977 and first revised in 1991} eliminated the choice of equity method and required proportional consolidation for joint ventures in Canada (see CICA, et al., 1994 for a US and Canada comparison). And, under 1990's IAS 31, proportional consolidation is the benchmark with equity method serving as the alternative. Australia's AASB 1006 {1986, AAS 19R} is consistent with the IASC benchmark. ED 79 {1997} proposes to bring Australia even more in line with IAS 31. In the UK, SSAP 1, as amended in 1983, indicates that proportional consolidation or the equity method may be used for joint ventures. A recent UK ED reaffirms support for proportional consolidation. Yet, most responses to 1996's FRED 11 preferred equity accounting (ASB, 1997b).

Despite current differences, a G4+1 project led by Canada and the UK should lead to harmonization. At a 1997 meeting, the G4+1 representatives unanimously endorsed the equity method for joint ventures (Cairns, 1997b) suggesting that the members may modify their standards to achieve compatibility.

Discontinued Operations (Panel H)

The G4+1 are working toward developing similar disclosure guidelines for discontinued operations. The US {APB 30, 1973} and Canada {s3475, R#64, 1989 and s1520, R#87, 1996} have adopted similar definitions and both require separate disclosure of discontinued operations in income. In the UK, 1992's FRS 3 modified the requirements of SSAP 6, thereby moving the UK more in line with North American requirements. FRS 3 requires that P&L be split between continuing operations and discontinued operations.

IAS 8 {revised in 1993} provides a loose definition of discontinued operations. Although the US influence is evident, the accounting requirements are less rigorous. However, proposals set forth in 1997's ED 58 will bring the IASC more in line with the US, UK, and Canada. In Australia, the AASB (1994) currently plans to review performance measurement, including discontinued operations. Completion of the IASC and Australian projects should yield similar requirements for all G4+1 members.

Business Combinations (Panel I)

G4+1 business combination standards differ depending upon when, or if, pooling accounting may be used. In the US, APB 16 {1970}, allows both purchase and pooling accounting, although not as alternatives for the same transaction. Although only about 10 percent of US business combinations qualify as poolings (Radebaugh & Gray, 1997), the US rules are less strict than those of the IASC and other G4 members.

In 1974, Canadian s1580 {R#10} required that the purchase method be used unless an acquirer could not be identified, an event which would necessitate pooling. Hiller and Smith (1996) argue that accounting for business combinations represents a significant difference between Canadian and US GAAP.

Accounting under the UK's SSAP 23 {1985} depended heavily on the form of the transaction. In 1994, FRS 6 adopted the principle of control used by Canada and the IASC (Tweedie, 1996). While FRS 6 brought the UK more in line with the US, like IAS 22, the UK standard is more stringent (ASB, 1994).

IAS 22 was issued in 1983 and revised in 1993 as part of the CP. IAS 22R more clearly defines which combinations are deemed purchases and which must be reported as a pooling (Epstein & Mirza, 1997). The IASC's pooling criteria are simpler yet much more restrictive than in the US.[7] Australia's AAS 21 {1985} requires the purchase method for all combinations.

As an outlier, the FASB (1997a) is reconsidering business combinations to achieve greater global comparability. Faced with opposition to Canada's "strict" rules on pooling, a CICA Task Force will carry out a project in step with the FASB and will provide input to the US. Completion of the FASB project may result in more compatibility among the G4+1 members. Yet, recent events indicate FASB (1997b) may retract its threat to limit poolings.

Consolidated Statements (Panel J)

Like business combinations, the US rules for consolidated statements differ from those of other G4+1 members. In fact, consolidation accounting represents a major area of divergence between the US and Canada (CICA, et al., 1994). The US's 1959 ARB 51 and 1987 FAS 94 prescribe that control through direct or indirect ownership of a majority voting interest is the usual condition for consolidation. Under Canada's s1600 {revised in 1975, R#14}, control is the principle criterion for consolidation.

IAS 27 {1989} superseded IAS 3 {1976}, and in 1995, the standard was revised. Like Canada's s1600, IAS 27 focuses on an assessment of control as opposed to the US's focus on an ownership criterion (FASB, 1996). SSAP 14 {1978} followed IAS 3 (ASB, 1992). Changes in company law prompted the issuance of FRS 2 in 1992. The UK's consolidation procedures are similar to IAS 27's (Davies et al., 1994). Australia's AASB 1024 {AAS 24}, as revised in 1992, also requires a parent to consolidate all entities under its control. An Australian ED is expected during 1997 to achieve compliance with IASs.

The entities included in consolidated statements may be different under US GAAP than under Canadian, UK, Australian, or IASC GAAP. Yet, a 1995 FASB ED's definition of control, requirement to include controlled entities in consolidated statements, and description of the purpose of consolidated statements are all consistent with other Anglo-American standards. Adoption of the proposal should improve compatibility among the G4+1 with control being the determining factor regarding when to consolidate.

Foreign Currency (Panel K)

The initial attempts to address foreign currency translation proved frustrating and led to one of the first cooperative endeavors between the IASC and the Anglo-Americans. In the US, FAS 1 {1973} was superseded as early as 1975 by FAS 8. The US again decided to reconsider foreign currency translation in 1979. Meanwhile in the UK, EDs issued in 1975 and 1977 permitted use of either the closing rate or temporal method for currency translation. The temporal method was considered in the UK only because it was the sole method allowed in the US (Davies et al., 1994). In Canada, the CICA also adopted the temporal method in 1978 {R#26} but suspended the standard in 1979.

Aiming for harmonization, the FASB, UK ASC, CICA, and IASC next elected to work together and develop similar proposals (see FASB, 1981, para. 76). In the US, FAS 52 followed in 1981; however, the UK's SSAP 20 was delayed until 1983 due to conflicts with the 1981 Companies Act. Although SSAP 20 and FAS 52 are similar in that each require the closing rate/net investment method when the functional currency is different from that of the holding company, other differences exist. IAS 21, also issued in 1983, allowed several choices. IAS 21R, as revised by the CP in 1993, yielded only modest changes (Epstein & Mirza, 1997). IAS 21R is similar to FAS 52 and SSAP 20; yet, again, discrepancies exist.

Canada issued a standard in 1983. Despite cooperation with the US, UK, and IASC, foreign currency translation represents an area of considerable diversity between Canadian and US and international standards (Hillier & Smith, 1996; CICA et, al, 1994; CICA, 1997a; and AASB, 1994). Fortunately, a 1996 ED proposed eliminating differences with IASs. But, the AcSB has deferred work on this project and will consider these issues as part of its project on recognition and measurement of financial instruments.

Australia's AASB 1012 {1987 and revised in 1988, AAS 20R} is similar to the above standards but discrepancies exist (AASB, 1994). A forthcoming ED will ensure compliance with IAS 21.

The G4+1 members each prescribe that the statements of self-sustaining operations be translated using the current rate method, and statements of integrated operations be translated using the temporal method. Yet, procedural differences abound. Although the G4+1 standards will continue to be based on the same theory, application differences may continue after completion of the Canadian and Australian projects.

Conceptual Framework (L)

All members of the G4+1 have developed, or are in the process of developing, conceptual frameworks. In the US, FASB completed work on its framework in 1985. Similar frameworks followed for the IASC {1989}, AcSB {1989 and 1991}, and AASB {1992}. Currently, the UK is working on a *Statement of Principles* (Tweedie, 1996). Analyses of the G4+1 frameworks reveal that each standard setter benefited from its predecessors' work. For example, the IASC drew on FASB's endeavors and benefited from parallel work in Australia and Canada (Cairns, 1995). The objectives and qualitative characteristics in the other frameworks are similar to SFACs 1 and 2 (ASB 1991; Johnson, 1994; McGregor, 1996).

Building on FASB's pioneering work, the UK has further advanced the concept of comprehensive income (IASC, 1996), and the UK's *Statement of Principles* contains groundbreaking work on measurement. The ASB (1995a) takes a prescriptive approach proposing that measurement decisions should be based on the value to the business rule (Tweedie, 1996).[8] During 1997, the US also issued a proposed SFAC that addresses measurement issues related to discounting. In its DPs, the G4+1 often acknowledges the importance that common conceptual frameworks play in facilitating the working group's joint endeavors.

Pensions and Other Post Employment Benefits (OPEBs) (Panel M)

Historically, pension accounting standards provided for flexibility in the choice of actuarial methods and assumptions (Skinner, 1987). However, in 1985, the FASB introduced an approach that has since been adopted by other G4+1 members. US standards on pension disclosures and related topics were issued in 1980 and 1983. In 1985, FAS 87 endorsed a balance sheet focus for pensions and required the accrued benefit valuation method. A 1997 ED proposes significant modification of pension disclosure requirements.

Canadian s3460 {1968, modified in 1973} endorsed several methods for calculating pension expense and required minimal disclosures. Then, in 1986, s3460 {R#50}, like FAS 86, required an accrued benefit valuation method (Santora, 1986). Again, major disclosures were not mandatory. Several differences existed between s3460 and FAS 87 (Skinner, 1987). The Canadians chose a discount rate based on the long-run average rate of return on fund investments, while FAS 87 required the obligation be revalued based on a rate reflecting current conditions. Canadian s4100 {1990} continues to require use of an accrued benefit valuation method. Disclosure requirements remain less stringent than for the US and IASC. A 1997 ED proposes the elimination of US/Canadian discrepancies.

The 1983 version of IAS 19 required that either an accrued or a projected benefit valuation method be used consistently (*CA Magazine*, 1983). IAS 19R {revised in 1993 via the CP} adopts an accrued benefit valuation method as the benchmark, but permits a projected benefit valuation method as an alternative.

SSAP 24 {1988} also follows the same broad approach as FAS 87, but the US standard is more tightly defined. The major difference is the US specification of the accrued benefit valuation method (Davies, et al. 1994).

Currently, the IASC and UK are reconsidering pensions. Like FAS 87, the IASC's 1996 ED 54 proposes a single actuarial method. Two options are presented in a 1995 UK DP (ASB 1995b). The main differences between the ASB's preferred approach and the IASC ED are that the IASC proposes the use of: (1) market values (ASB, actuarial methods) to measure pension assets; (2) a high quality fixed interest bond rate (ASB, the rate of return on a pension fund's assets); and (3) a "corridor" to reduce volatility (ASB, gradual recognition) (ASB, 1997b). Some G4+1 members (Micallef, et al., 1997) challenge the UK position on discount rates and argue that to improve financial reporting and harmonization the IASC should retain the specific rate approach. The ASB is following IASC developments, and a FRED is due out in 1997.

Traditionally, minimal accounting guidance existed for OPEBs. With the exception of the US, the G4+1 members have only recently began to seriously consider accounting for OBEPs. In the spirit of FAS 87, 1990's FAS 106 required that a liability be recorded for OPEBs.

Other G4+1 members are moving toward the FAS 106 approach. While SSAP 24 states its principles may be applicable to OPEBs, ASC Technical Release 756 stated it was not necessary to apply SSAP 24 to such benefits. In 1992, the Urgent Issues Task Force (UITF) ruled that OPEBs are liabilities and should be recognized following the principles of SSAP 24. UITF Abstract 6 refers to FAS 106 for guidance on measurement bases. IAS 19 suggests it may be appropriate to account for and disclose OPEB costs in a similar manner if the substance is the same as that of retirement benefit plans. In Canada, various methods of accounting for OPEBs are practiced; however, a 1997 ED aims to eliminate US/Canada differences. In Australia, OBEPs are covered by 1994's AASB 1028, which addresses all employee entitlements and requires that employee entitlements for periods over 12 months be measured using present values (Ryan & Heazlewood, 1997). An ED is expected in 1997 to achieve compliance with the proposed IAS.

Pension standards issued during the 1960s allowed much flexibility. In 1985, the US adopted a limited liability approach requiring use of an accrued benefit valuation method. Canada eventually adopted a similar approach, and the IASC and Australia will likely soon follow the same route. The UK is considering an alternative that although similar to international standards would differ significantly in key areas.

The US also assumed the lead in adopting accrual accounting for OBEPs and was quickly followed by the UK. A 1997 ED suggests Canada will also adopt this approach. The IASC's planned revision of IAS 19 is to deal with "all forms of post-employment benefits" (IASC, 1997c). A similar Australian standard should follow issuance of the proposed IAS, thereby yielding compatibility among the G4+1.

Deferred Taxes (Panel N)

In recent decades, debates on deferred tax allocation have focused on the merits of the deferred versus the liability method and comprehensive versus partial allocation. In 1967, the US {APB 11} and Canada {AARC Bulletin 26} adopted the deferred method of comprehensive tax allocation (Skinner, 1987). Canada's 1973 s3470 adopted partial allocation for tax loss carry-forwards.

The Australian view has changed several times, with 1970's D4 supporting matching (Leppinus, 1977); 1976's DS4 reasserting the "realization concept"; and AAS 3 noting that matching was preferable to the cash flow alternative (Chew Ng, 1984). Currently, AAS 3, as reissued in 1989, requires the liability method with comprehensive allocation (Davies, et al. 1994).

Though most UK companies used the liability method, 1973's ED 11 endorsed the deferred method (Davies, et al., 1994). Hope and Briggs (1982) argue the move was in the interest of harmonization. However, SSAP 11 {1975} allowed for the deferred or liability method. In 1978, inflation prompted the issuance of SSAP 15. As amended SSAP 15[9] allows for partial allocation (with disclosure of the comprehensive provision) computed under the liability method.

Inflation also produced increasing deferred tax balances in the US. In line with AAS 3 and SSAP 15, 1987's FAS 96 adopted the liability method. Unlike SSAP 15, FAS 96 retained comprehensive allocation (recognition of deferred assets was restricted). In 1992, FAS 109 superseded FAS 96. Similar to 96 in most other areas, FAS 109 adopted partial allocation for deferred tax assets.

IAS 12 {1979} allowed use of the deferred or liability method and permitted comprehensive or partial allocation. In 1996, IAS 12 was revised along the lines of FAS 109. While the IASC was reconsidering deferred taxes, the UK, Canada, and Australia embarked on similar projects (IASC, 1995). In 1997, Canadian s3465 was approved, which is consistent with IAS 12R and FAS 109 (CICA, 1997b). An Australian ED, based on IAS 12R, is expected in 1997. Thus, with the exception of the UK, the G4+1 have adopted similar positions on deferred taxes.

A 1995 UK DP advocated comprehensive allocation, noting it is more consistent with international practice (ASB, 1995c). The proposal was similar to the IASC and FASB position, except the ASB advocated discounting. When the DP met resistance, the ASB postponed action. Such opposition is interesting in that a review by the accounting bodies identified SSAP 15 as one of the two SSAPs most in need of early attention (ASB, 1995b).[10] Though the UK voted against the proposed IAS (*Accountancy*, 1996a), the ASB (1997c) now argues that full provisioning is the only internationally accepted method. A forthcoming DP should suggest whether the G4+1 will soon be in harmony regarding the issue or if the UK will be an outlier.

Impairment (Panel P)

During the 1980s and 90s each G4+1 member addressed impairment. In 1990, Canada's s3060 {R#67} was revised to require that when the carrying value of a capital asset exceeds the recoverable amount the excess must be charged to income. In the US, 1995's FAS 121 requires that long-lived assets and certain intangibles be reviewed for impairment when events or circumstances indicate the carrying value may not be recoverable. If value in use (not discounted) is less than the carrying amount, the asset is written down to fair value and a loss is recognized. An impairment loss cannot be reversed. In Australia, amendments to AASB 1010 {1991} mandate that non-current assets are written down to recoverable amount if that amount is higher than carrying amount. Impairments may be taken through any revaluation reserve and only the excess is charged to P&L. In the spirit of FAS 121, IASC (1997d) ED55 and the UK's FRED 15 (ASB, 1997a) were issued during 1997. Unlike FAS 121, the IASC and UK propose that 'value in use' be calculated by discounting future cash flows. And, both proposals allow for the restoration of past impairment losses based on a change in economic conditions. While the G4+1 will likely soon have similar standards, important differences continue. Fortunately, the G4+1 DP *International Review of Accounting Standards Specifying a Recoverable Amount Test for Long-Lived Assets* (Paul, 1997) provides a basis on which further harmonization can be pursued.

Financial Instruments (Panel Q)

Having achieved similar standards, or proposals, regarding financial instrument disclosures, the G4+1 are now focusing on recognition and measurement.[11] Each member is building on the G4+1 consensus view that derivative financial instruments should be recognized and measured at fair value (Adams & Montesi, 1995). A 1997 FASB ED adopts this approach and proposes that changes in fair value be reported in net income or comprehensive income. However, US Congressional intervention may delay a FAS. The FASB (1997a) has closely followed a similar IASC/Canada project and provided consultation and comment about FASB's project. Based on its work with Canada, the IASC (1997e) issued a DP proposing that all financial assets/liabilities be measured at fair value with all changes in value charged to income/expense. In response to the IASC DP, the Australian Society of CPAs (ASCPA, 1997a) requested that the IASC proposal be issued as an Australian DP. A 1996 UK DP also recommends that financial instruments be measured at current values (ASB, 1996a and 1997d and e). In late 1997, the G4+1 agreed to work together to complete the members' individual standards (Cairns, 1997a). The G4+1's first standard should result in all five bodies requiring that derivatives and other financial instruments be recognized at fair value.

Comprehensive Income (Panel R)

Recently, each G4+1 member has moved toward endorsing comprehensive (all-inclusive) income. Borrowing from FASB's conceptual framework, the UK's FRS 3 {1992} requires that comprehensive income be reported via the statement of total recognized gains/losses (Tweedie, 1996). Similarly, Australia's 1018 {AAS 1}, as revised in 1992, requires that all items of income/expense be included in income except for the effects of certain changes in accounting policies (AASB, 1994). IAS 8R {1993} also requires that all items of income/expense be included in income unless an IAS requires or permits otherwise.

Moving in line with the UK's FRS 3, 1997's FAS 130 and IAS 1R establish a new primary financial statement showing those gains and losses not currently presented in the income statement (*Double Entries*, 1997b). An Australian ED, expected in 1998, should be consistent with IAS 1R. And, Canada has noted that a new performance measurement statement designed to bring together all changes in equity other than owner transactions may hold promise (CICA, 1997b).

While the G4+1 members are committed to disclosure of comprehensive income, debate continues concerning where certain items should appear and whether items which initially by-pass income should later be recycled through the income statement (Cairns, 1997b). The North Americans {FAS 130} prefer recycling while the UK {FRS 3} insists items should be recognized only once. A forthcoming G4+1 DP will likely provide insight regarding further harmonization efforts.

Earnings Per Share (EPS) (Panel S)

The G4+1 are moving toward consensus regarding the calculation of EPS. The US, Canada, and UK initially issued EPS guidelines in 1969 {APB 15}, 1970 {s3500, R#4}, and 1972 {SSAP 3}, respectively. Each required calculation of primary/basic and fully diluted EPS, but the calculations varied (see CICA, et al., 1994). Concurrent projects by the IASC and US have led to minimizing these differences.

IAS 33 and FAS 128 {1997} (see FASB, 1997c) require the calculation of basic and diluted EPS. AASB 1027 {1992}, which applies only to listed companies, was based on the then proposed IAS. To further enhance harmonization, Australia plans to issue an ED based on IAS 33.

A 1996 UK DP requested feedback on IASC ED 52. The ASB (1997f) argues that certain changes made when the ED was translated into an IAS reflect the views of UK respondents. In 1997, FRED 16 was issued; the ED generally follows the text of IAS 33. Thus, the IASC, Australia, UK, and US will soon have similar EPS standards. Modifications consistent with Canada's commitment to achieving harmonization with IASC and US standards would yield harmony among the G4+1.

Marketable Securities (Panel T)

Currently, the G4+1 members concur that marketable securities should not be carried in excess of their recoverable amount. Canada's 1972 R#8 re-worded s3010 stating temporary investments in marketable securities should be carried at lower of cost or market

(LCM). Section 3050 {R#8} requires that long-term investments be written down when there has been a loss in value. Like Canada, in 1975 the US adopted LCM for marketable equity securities. Under 1986's IAS 25, current investments may be carried at market or LCM. Long-term investments may be carried at cost or revalued amounts, or for marketable equity securities, at LCM. According to Australia's 1988 Accounting Guidance Releases (AGR) 9 and 10, non-current marketable securities should not be carried in excess of recoverable amount.

Reflecting a trend toward carrying financial instruments at fair value, 1993's FAS 115 requires that trading securities be carried at market with gains/losses flowing through income and available for sale securities be carried at market with holding gains/losses bypassing income. However, held to maturity debt securities are reported at amortized cost. Based on *The Role of Valuation in Financial Reporting*, the UK ASB also favors marking quoted securities to market (Davies, et al., 1994). While variability currently exists among the G4+1 guidelines, the decision to jointly work on a standard indicates that all members will soon require that marketable securities be carried at fair value (Cairns, 1997a; Adams & Montesi, 1995; also see Financial Instruments, Panel Q).

Segment Reporting (Panel U)

All G4+1 members currently require the disclosure of segment information. FAS 14 {1976} contained the first segment reporting guidelines issued by an Anglo-American standard setter. Similar, though less extensive, requirements followed for Canada {s1700, 1979, revised in 1993}, the IASC {IAS 14, 1981}, Australia {AAS 16, 1984; revised following 1986's AASB 1005},[12] and the UK {SSAP 25, 1990}. All of these standards require disclosure of segment revenues, earnings and assets (AASB, 1994).

Following a joint US/Canada project and a simultaneous IASC project, 1997's FAS 131, Canada s1701 {R#93}, and IAS 14R contained new segment reporting guidelines. Although differences remain (IASC, 1997f), the standards basically require that operating segments be determined based on management structure. With the IAS, companies will most often report two bases, with extensive disclosures required for the primary base and limited disclosures for a secondary base. Normally, the bases will be industry and geographic. Australia is developing an ED based on IAS 14R.

A 1996 ASB DP requested feedback on the FASB and IASC EDs (*Accountancy*, 1996b). Respondents indicated SSAP 25 is satisfactory, overwhelmingly rejected the managerial response, and argued the IASC disclosures are excessive (ASB, 1996b). The ASB has made no move to modify its current guidelines. Thus, while all G4+1 members require some form of segment reporting, the UK may choose not to endorse the new approach developed concurrently by the US, Canada, and IASC.

Accounting Changes (V)

Today, each G4+1 member endorses one of two treatments for reporting changes in accounting method. As of 1969, Canadian s3600 stated that retroactive treatment may be appropriate. Via 1980's R#34, s1506 {modified in 1996, R#87} requires that most changes in principle be applied retroactively. Similar to Canada, 1974's SSAP 6 requires retroactive treatment; however, 1992's FRS 3 requires that all prior-period adjustments be reported in the Statement of Total Recognized Gains and Losses. Under the IAS 8R {1993} benchmark, changes in method are also reported as retroactive adjustments. The allowed alternative is inclusion of the effect in income. IAS 1, as revised in 1997, requires that the cumulative effect of changes in method dealt with under the IAS 8 benchmark be reported in a statement of changes in equity.

Consistent with the IASC alternative, the US's 1971 APB 20 requires that the effect of most changes in method be reported as a separate category of income. FAS 130 {1997}, reaffirms this treatment. In Australia, AASB 1018 {1989}, also requires that most changes in method be reported in income.

With the exception of Canada, all G4+1 members require that changes in accounting method be reported in either net income or a statement of "other changes in equity." Adoption of a "statement of other changes in equity" by Canada (see Comprehensive Income, Panel R) would yield compatibility.

Goodwill (GW) (Panel W)

The US {APB 17, 1970}, Canada {s1580, 1973}, Australia {AAS 18, 1984/AASB 1013, 1988} and IASC {IAS 22R, 1993} all currently follow a "capitalize and amortize" philosophy for GW (see Carnegie & Gibson, 1991). GW is written off to income if an annual review indicates impairment (see FASB, 1996). Required amortization periods vary as follows: US and Canada 40 years or less; the IASC 5 years or less (unless a longer period, not to exceed 20 years, is justified); and Australia 20 years or less. Unlike the US and IASC, Canada and Australia {AASB 1013 as revised in 1996} require straight-line amortization (Ryan & Heazlewood, 1997; Grant, 1996).

In the UK, SSAP 24 {1984} also allows for the amortization of GW; however, immediate write-off to equity is the preferred method. While the 1983 version of IAS 22, allowed for immediate write-off, IAS 22R, as revised in 1993 by the CP, prohibits this treatment (Epstein & Mirza, 1997). Thus, the UK is out of line with international practice. In addition, as early as 1990, the ASC's ED 47, proposed a ban on reserve accounting and argued the resulting assets should be depreciated (Rhodes, 1990).

Currently, the IASC and UK are reconsidering GW. Although 1997's ED 60 reasserts support for the capitalization and amortization of GW (IASC, 1997c), the IASC is requesting feedback regarding whether GW should always be amortized. Australia plans to issue an ED, which will be compatible with the forthcoming IAS.

The UK's FRED 12 {1996} states that GW need not be amortized if its value is significant, is expected to be maintained indefinitely, can be reliably measured in the future, and an impairment review indicates no diminution in value. If the life is expected to be limited, GW should be amortized over a period of 20 years or less. FRED 15 (ASB, 1997a) confirms this position.

For most of the G4+1, current practice involves the capitalization and amortization of GW. However, the UK, and, to some extent, the IASC, are considering whether GW may be viewed as a permanent asset that is regularly reviewed for impairment. Australia will likely follow the approach adopted by the IASC (Grant, 1996). While the US initially expressed skepticism regarding the UK proposal, that position is now being reconsidered (FASB, 1997b). If the IASC and FASB were to consider GW as a permanent asset, Canada and Australia would likely endorse the same view. However, whether the FASB could attain SEC approval of such an approach is questionable. Thus, the G4+1 may soon agree that GW should be capitalized, but may continue to differ regarding whether it must be amortized.

No Significant Progress Toward Compatibility

Error Correction (Panel X)

Currently, each G4+1 member endorses one of two treatments for correcting errors. As of 1971, Canada's s3600 noted errors should be corrected by prior-period adjustments. This policy was restated in 1980's s1506 {R#34; modified in 1996 by R#87}. Similar requirements followed in the US {FAS 16, 1977} and UK {SSAP 6, 1974}. In the US, FAS 130, notes that the retroactive adjustment should not be reported in comprehensive income. Alternatively, the UK's FRS 3 {1992} notes that prior-period adjustments should be recognized in the Statement of Total Recognized Gains and Losses. Consistent with the US and UK, under the IAS 8R {1993} benchmark, errors are corrected via prior-period adjustments. However, an allowed alternative states the correction may be included in income. Revisions to IAS 1 {1997} require that the correction of errors dealt with under the IAS 8 benchmark must also be reported in a statement of total changes in equity.

Consistent with the IASC allowed alternative, Australia's AASB 1018 {AAS1R; approved in 1989 and revised in 1992} requires the inclusion of all revenues/expenses in P&L including adjustments relating to prior years (Ryan & Heazlewood, 1997). As long as the IASC allows for this alternative treatment, Australia will likely continue to be out of line with other members of the G4.

Interest Capitalization/Borrowing Costs (Panel Y)

The G4+1 members disagree regarding the appropriate treatment of borrowing cost. While the US {FAS 34, 1979} mandates capitalization for interest costs associated with the acquisition of qualifying non-current assets, Canadian s3850 {R#54, 1987} only requires disclosure of the amount of any capitalized interest. The original version of IAS 23 {1984} permitted capitalization or expensing of borrowing costs. However, IAS 23R {revised in 1993 via CP} now requires expensing as the benchmark, with capitalization serving as an allowed alternative. Australia's 1997 ED 75 is based on IAS 23, but, because the AASB tends not to allow choices, the proposal endorses only the IASC allowed alternative (ASCPA, 1997b). Adoption of the Australian proposal would yield compatibility with IASC and US GAAP. While there is no UK standard, Company Law allows interest to be included in the production cost of an asset. Despite the disparity among the G4+1, no harmonization plans have been announced.

Research and Development (R&D) (Panel Z)

The G4+1 members are also at odds regarding R&D. FAS 2 {1974} requires the expensing of R&D.[13] Prompted by FAS 2 (Nobes, 1991), a 1975 UK ED recommended that most R&D be expensed. However, following criticism, the proposal was modified. SSAP 13

{1977} requires research be expensed and allows, but does not require, the capitalization of certain developmental costs.

Canadian s3450 {R#25} and IAS 9 were issued in 1978.[14] Originally, IAS 9 required the expensing of research cost but allowed capitalization or expensing of development costs. IAS 9R {revised in 1993 via CP} is similar to s3450 and SSAP 13, which both allow capitalization of certain developmental costs. The IASC mandates that development cost be recognized as an asset when certain criteria are satisfied.

In Australia, AAS 13 {1983} permits R&D to be recognized as an asset and amortized (AASB, 1994). The AASB acknowledges AAS 13 must be reconsidered in the interest of harmonization.

Currently, the G4+1 disagree regarding R&D. However, in 1997, the AcSB announced it would address Canadian/US differences. And, although change is unlikely, in ED 61, the IASC is re-examining R&D. Thus, the opportunity exists for minimizing, but not eliminating, differences. In late 1997, the UK ASB stated that a new R&D standard is not a priority.

SUMMARY AND CONCLUSIONS

Globalization of business and capital markets has resulted in an ever-increasing demand for harmonization of accounting standards. Yet, the current research reveals that entering the 1990s, numerous differences existed between IASs and the accounting standards of the major Anglo-American countries. Few examples of compatibility were identified. While the IASC and Anglo-American's achieved consensus during the early 1980s regarding the funds flow statement, this achievement was short-lived as the US initiated a move toward the cash flow statement in 1987. A decade later consensus is contingent on issuance of a Canadian standard based on the IASC and US standards. The standard is expected during late 1997.

In the 1980s, compatibility was also achieved in accounting for leases. And, a current project will bring the IASC even more in line with the Anglo-Americans. Yet, the status quo may be disrupted in that a G4+1 publication calls for capitalization of all non-cancelable leases. Australia, the UK and IASC are further developing the proposal and are committed to adopting the new approach. At a 1997 G4+1 meeting, the US reaction to the "New Approach" was more positive than at past meetings (Cairns, 1997b) suggesting the North Americans may also reconsider accounting for leases.

Failure to achieve significant gains toward harmonization in the 1970s and 1980s can be linked to the manner in which the IASC and Anglo-American standard setters operated. The IASC, whose membership consists of national professional accountancy bodies, worked primarily in isolation of national standard-setters. With few exceptions, national standard setters also worked independently of each other.

Prior to the 1990s, agenda coordination was limited, with the exception of a cooperative effort on foreign currency translation in the early 1980s. Unfortunately, this endeavor was a limited success as the resulting Canadian standard contrasts significantly from other international standards. Yet, this discrepancy may be resolved, as Canada has announced plans to move more in line with the US rules. And, Davies, et al. (1994) suggests that UK guidelines should be amended to achieve greater comparability internationally.

Lack of agenda coordination and cooperation between the IASC and Anglo-Americans resulted in significant time lags before consensus was achieved on agenda items initiated during the IASC's first two decades. For example, it took more than 20 years to achieve similar guidelines on the funds statement and extraordinary items. And, it took more than a decade to arrive at compatible rules for provisions.

As the 21st century approaches, harmonization has become an even more desirable goal. Yet, no nation has a set of accounting rules which have such clear merits that they deserve adoption by the world (Carsberg, 1996). The US has the longest standard setting history and the largest standard setting body that is characterized by high standards of professionalism. Even the US rules, however, exhibit compromises between different interests of a kind that could reasonably have been decided differently. No nation has an unquestionable right, on the basis of existing achievement, to be regarded as predominant in accounting.

Presently, IASs also fail to provide the solution. IASs are considered too broad as they were designed to meet the needs of many countries with different economic, legal, and regulatory frameworks. Carsberg (1996) argues that much work is needed before a well-founded basis for uniformity can be reached, and this work can take place, effectively, only at the international level. In 1993, the IASC reaffirmed a 1980 resolution whereby member countries are encouraged to invite the IASC to participate in discussions between two or more countries dealing with accounting standards. This act set the stage for the IASC to participate with groups like the G4.

The IASC and Anglo-Americans entered the 1990s better equipped than in prior decades to engage in cooperative endeavors. By focusing on common themes in their conceptual frameworks and adopting a philosophy of harmonization via cooperation, the G4+1 has contributed significantly to the development of accounting thought and regulation and has cut the time required to develop a standard. During the 1990s, the G4+1 has made substantial progress toward harmonization. Successes include topics initially addressed in the 1970s or 1980s. Pending removal of a legal impediment in Australia, all five will endorse the equity method of accounting for investments in associates. Over two decades have passed since the US and UK first endorsed the equity method. Also, after more than two decades, the G4+1 will likely soon attain consensus regarding: interim reporting; separate disclosure of discontinued operations in income; limited use of pooling of interest; and consolidation of accounts based on control. In 1997, the G4+1 voted unanimously in favor of using the equity method for joint ventures.

The G4+1 are also moving toward compatibility on two of the most pressing problems of the 1980s. The IASC, US, Australian, and Canadian deferred tax standards are based on an approach first adopted in 1987's FAS 97. With the ASB acknowledging that comprehensive allocation has become the only internationally accepted method and the UK's commitment to harmonization, an effort to harmonize with the IASC is likely.

Current IASC and Australian projects on pensions will likely yield standards similar to those adopted by the US in 1985 and soon thereafter in Canada. Yet, the UK ASB's preferred approach differs somewhat from the IASC proposal. Compromise by the UK is questionable, in that the US standard was to represent only "an evolutionary change" (FASB, 1985, para. 107). Conclusion of the current pension projects will likely be followed by consensus regarding OPEBs. The G4+1 members' OPEB standards should be similar to the approach adopted by the US in 1990.

G4+1 projects initiated in the 1990s have often produced compatible standards, or proposals, on a relatively timely basis. Agenda coordination and cooperation have resulted in the G4+1 achieving consensus on several topics in less than one decade, as opposed to the larger lags characteristic of the 1970s and 1980s. Upon completion of IASC and UK projects, all the G4+1 will have impairment standards based on a philosophy similar to that adopted by Canada in 1990. In addition, the G4+1's comprehensive income project appears to be leading to adoption of an all-inclusive income statement by all members within only a few years of the UK establishing international precedent in 1992.

While cooperative efforts of the 1990s yielded similar disclosure guidelines, or proposals, for financial instruments, measurement has proven more challenging. Yet, the G4+1 members have worked on individual standards that reflect the group's consensus view that derivatives should be recognized and carried at fair value (Adams & Montesi, 1995). In late 1997, the IASC Board voted against a staff recommendation that the IASC adopt all US standards on financial instruments (*Double Entries*, 1997c and d). Alternatively, the Board decided that the IASC should join with national standard setters, including the G4 members, to develop a harmonized IAS. Prior to the Board meeting, the G4+1 members had agreed to work collectively to complete national and international standards requiring the use of fair values for all financial instruments (Cairns, 1997a). The outcome of the project will be the G4+1's first standard.

The G4+1 may soon have similar EPS standards. Projects that ran concurrently resulted in timely adoption of similar IASC and US standards. Australia's guidelines are based on the (then proposed) IAS. And, the UK has issued a FRED based on the IAS. According to the ASB, minimal changes to UK requirements are necessary since the ASB was able to feed the views of the UK community into the debate leading to the IAS. These views were based on responses to an UK DP that requested comments regarding the IASC/US proposals. This DP reflects the ASB's desire to ensure UK views are reflected in all harmonization efforts. Given Canada's commitment to harmonize with IASC and US rules, the AcSB can be excepted to issue a standard that, like FRED 16, reflects only minor modifications to the IAS.

Also representative of unprecedented cooperation is a US/Canada joint project on segment reporting that ran concurrently with an IASC project. During 1997, the US, Canada, and IASC issued similar standards. Again, an UK DP encouraged constituent feedback and the responses were introduced into the IASC deliberations. Hence, the UK may again draft a FRED based on the new IAS. And, Australia's harmonization strategy commits the AASB to develop a standard compatible with IAS 14R.

GW has been debated for decades with limited success, but this may change. The UK has introduced an alternative to the "capitalize and amortize" approach, and an IASC ED requests feedback regarding whether GW should always be amortized. In a surprising move, the FASB announced it might make purchase accounting less onerous by eliminating GW amortization. Given Australia and Canada's IASC harmonization strategies, compatibility among the G4+1 on GW is possible.

Diversity among the G4+1 identified by the research includes: accounting for changes in accounting method, R&D, and interest capitalization. Given the successes of the G4+1 and each member's commitment to harmonization, achieving compatibility in these areas appears feasible. In fact, Canada is currently addressing Canada/US differences regarding R&D.

Only a few years ago harmonization of accounting standards was viewed by most as an admirable but unattainable goal. However, this research indicates significant gains have been achieved through the IASC's cooperative efforts with the G4. The G4+1's successes can be tied to agenda coordination and cooperation. By agreeing to broad principles prior to the drafting of individual standards, the G4+1 set the stage for the development of similar standards. Harmonization is further enhanced by activities such as the IASC/Canada financial instruments, US/Canada and IASC segment reporting, US/IASC EPS, and IASC/UK provisions projects.

IASs must not be viewed as an Anglo-American product if these standards are to be accepted worldwide. While continuing to work with the G4, the IASC must also further develop its working relationships with other groups of national standard setters. Such endeavors will prove more challenging. While the conceptual frameworks of the IASC and Anglo-Americans are highly similar, the objectives of other national standard setters often conflict with those of the IASC. Nevertheless, the IASC must view its early successes with the G4 as only an initial step and continue the difficult task of working with other standard setters to achieve international accounting harmonization.

NOTES

1. The G4+1 members have formally committed to work toward the harmonization of accounting standards. See FASB's (1997a) Strategic Plan for International Activities; CICA (1997a) Handbook s1501; Australia's 1996 Harmonization Policy (Ryan & Heazlewood, 1997; Davies, et al., 1994; Cairns, 1995).
2. In 1966, the Australian Accounting Research Foundation (AARF) was formed to provide a research base for the profession. In 1984, the Accounting Standards Review Board (ASRB) was formed with legislative power to approve standards. The AARF and ASRB merged in 1981, and in 1991, the AASB replaced the ASRB. Australian Accounting Standards (AAS) are developed by the AARF and considered by numerous formal bodies (Whittred & Zimmer, 1992). After exposure drafts are issued for comment, a standard is issued and forwarded to the AASB for approval. Currently, Australia is considering replacing the AASB with a new standard setting body (*Double Entries*, 1997a).

   The AcSB of the Canadian Institute of Chartered Accountants (CICA) issues Releases (Rs) which add, replace, and/or modify Sections (s) of the Canadian Accounting Handbook. In 1997, the CICA Task Force on Standard Setting recommended Canada's continued contributions to the global accounting standard setting objectives.

   In the UK, the Accounting Standards Committee (ASC) issued Statements of Standard Accounting Practice (SSAPs) between 1970 and 1990. The ASC was replaced in 1990 with the ASB that issues Financial Reporting Standards (FRSs).
3. Braces are utilized to indicate the date a standard, ED, or other document was issued or to provide additional information about a document or data source. References are not provided for these documents.
4. Limited agenda information is provided in early versions of *IASC Insight* and its predecessor, *IASC News*.
5. Informed parties, including a representative of the Institute of Chartered Accountants in England and Wales (ICAEW) and a former ASC member, indicated no one source provides all the necessary data for the UK.
6. Most of FRED 11's proposed changes to SSAP 1 pertain to joint ventures, not investments in associates.

7. IASC ED 61 was issued in 1997. Yet, the Board does not intend to revise IAS 22 in areas that are not linked to the projects on provisions and contingencies, intangible assets, and impairment of assets.
8. The value to the business rule compares net realizable value and value in use to determine the recoverable amount that is then compared to replacement cost to determine the value to the business.
9. Initially SSAP 15, did not mandate the liability method which was proposed in ED 19. If fact the standard did not mention either the liability method or the deferred method.
10. SSAP 24, Accounting for Pensions, was the second standard noted by the accounting bodies.
11. FAS 115 (Panel T) represents an accelerated portion of the US's recognition phase. Similar projects include: FAS's 110 {1992}, 114 {1993}, 118 {1994}, and 125 {1996}.
12. For a comparison of Australian, US, UK, Canadian, and IASC rules see Ryan and Heazlewood (1997).
13. FAS 68 {1982} specifies how an enterprise is to account for its obligation under an arrangement for the funding of its R&D by others and does not affect FAS 2.
14. Paragraphs 16–18 of D10 {issued in 1972 and reissued as AAS 9 in 1979} addressed development costs. Paragraphs 16–18, dealing with R&D, were deleted in 1983 due to issuance of AAS 13.

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The International Journal of Accounting

Corporate Financial Disclosure in Emerging Markets: Does Economic Development Matter?

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Key Words: Emerging markets, Disclosure, Foreign investment

Abstract: *This paper breaks with previous research by concentrating on emerging market economies rather than developing countries. It tests the relationship between corporate financial disclosure and the sophistication of economies and capital markets within the context of the extant Cooke and Wallace (1990) model. It finds that, as posited in the model, firms in developed market economies have a significantly higher mean level of effective disclosure than those in emerging market economies. These differing levels of disclosure are modified by the importance of capital markets and a relatively low level of the uncertainty avoidance culture variable. The study also finds that the level of corporate disclosure is positively related to prior levels of corporate financial disclosure regulation and is directly related to the ability to draw future foreign portfolio investment.*

This paper breaks from previous research by concentrating on emerging market economies rather than developing countries. Emerging market countries are those countries in which capital markets have developed to the point of contributing to the national financial pool and are usually able to receive some external portfolio investment. This suggests that at some point such markets will fully emerge to become "developed" markets. Excluded are those countries that have not yet developed to the point of being viable areas for portfolio investments from the global investment community.

In the early 1990s emerging markets seemed to be the answer to investors' prayers. In the period from its inception in 1988 to April 1997, the International Financial Corporation's (IFC) index of investable emerging markets rose by a mean compound rate of 16 percent per annum. This return was larger than either the developed markets as a whole, or the S&P 500 (*The Economist*, 1997). Despite the very significant return and continuing robust performance of the economies of the major countries that constitute the IFC index,

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The International Journal of Accounting, Vol. 33, No. 2, pp. 211-234 **ISSN: 0020-7063.**

emerging market stocks appear to be of relatively little interest to US and other institutional investors (*The Economist,* 1997). Why has this happened and does it relate to accounting?

In a recent overview *The Economist* (1997:80) suggests that "The well known risks in emerging economies include patchy information about companies, ropey accounting practices and lax regulation" are largely to blame. In a more formal academic setting Alford et al. (1993) model a lack of good disclosure (asymmetric information) as quotas limiting the quantity of an asset in an investors portfolio. This in turn supports earlier work by Adler and Dumas (1975) who point to asymmetric information as the second reason why global markets may be segmented, and Errunza and Losq (1985) who demonstrate that emerging markets are segmented from US markets and that such markets command a super risk premium, i.e., shares listed solely in emerging markets command higher risk premiums than similar securities listed in a non-segmented market. Thus, while emerging markets continue to perform well they seem to suffer directly or indirectly from information problems which can be related to poor disclosure.

This paper examines four major questions:

1. Do systematic gaps in disclosure levels exist between emerging and developed markets?
2. Do these gaps continue to be important after controlling for global factors which have been found to affect disclosure levels?
3. Is Corporate Financial Disclosure (CFD) associated with Corporate Financial Disclosure Regulation (CFDR)?
4. Can disclosure be described as an effective signaling technique to attract inward investment in a global market?

The study draws on the theoretical work of Cooke and Wallace (1990), which develops an environmental model to explain differences in nominal Corporate Financial Disclosure Regulation (CFDR), and actual Corporate Financial Disclosure (CFD) between emerging and developed markets. The study uses data from the Center for International Financial Analysis and Research (CIFAR, 1991, 1993, 1995) disclosure indices for industrial firms in 14 emerging market countries and 19 developed countries at three points in time. The study finds that the mean level of CFD for companies in developed markets is statistically significantly greater than those in emerging market economies. Further this relationship continues even after controlling for global factors known from prior research to affect levels of corporate disclosure (see for example, Salter & Niswander, 1995; Adhikari & Tondkar, 1992). CFDR is found to be significantly associated with CFD. Finally, some limited evidence is found among emerging markets that increased disclosure can be regarded as an effective tool in signaling that foreign portfolio and direct investment are welcome.

The remainder of the paper starts with a brief review of the literature. This is followed by a description of the proposed models for determining patterns of actual corporate financial disclosure (CFD) and corporate financial disclosure regulation (CFDR). Then the hypotheses, methodology, sample and results are presented. The paper concludes with a brief summary and proposals for future research.

LITERATURE REVIEW

Starting with Ball and Brown (1968), much of the US and non-US domestic accounting literature in English has concentrated on the usefulness of accounting information. A large part of this literature is dedicated to understanding the relationship between accounting disclosure and stock markets (see for example Atiase, 1988, 1994). At the same time, the literature in the international finance area has concentrated on documenting and explaining the lack of integration among global capital markets. The global finance research has come to an initial conclusion similar to that of the domestic accounting literature that levels of financial reporting may affect the direction and force of stock market performance and indirectly, stock market integration (see Alford, 1993; Alford & Folks, 1996). Information asymmetry and global market segmentation thus appear to be linked. A logical follow-up question is, does actual corporate financial disclosure (CFD) differ between countries, and why?

Evidence of inter-country disclosure difference has a fairly long but limited history (see Appendix 1 for a tabular summary of significant International Accounting literature on disclosure). Tyra (1970) established that financial disclosure patterns differed among a sample of European companies grouped by country. More recently, Needles et al (1991), examining pension reporting, find differences between six European countries. Frank (1979), Nair and Frank (1981), Belkaoui (1983), and Belkaoui and Maksy (1985) establish that differences may exist among countries. Most recently, Alford et al. (1993), using a capital markets based methodology for each of 16 developed economies, conclude that accounting numbers contain information content across a wide variety of markets. However Alford et al. (1993) add a significant finding. They find that the relative information content of accounting disclosure varies from country to country. The US, Australia, France and the UK are found to have accounting data with relatively high information content, and that of Denmark, Germany, Italy and Sweden being less value relevant. Regrettably Alford et al. (1993) limit their work to developed markets.

Explanations of cross-national differences in financial reporting practices have concentrated on so-called environmental models primarily using cultural and other systemic variables at a global level. Much of the early theoretical literature suggests that financial reporting practices as a whole, and CFD as a subset of financial reporting, should be affected by and may be explained by a number of environmental factors including a country's particular colonial history or stage of development (Mueller, 1967; American Accounting Association, 1977). Later (Nobes, 1983; Gray, 1988; Riahi-Belkaoui, 1995; Salter & Niswander, 1995) add cultural and market dimensions to the earlier studies and do some empirical testing. Alford et al. (1993) identification of groups of countries with good and poor information content ties closely with the models of Nobes (1983), Gray (1988), Salter and Niswander (1995), and Doupnik and Salter (1993). All of these models place countries in similar groups to Alford et al. (1993), citing socio-cultural reasons for disclosure levels. Despite the considerable work done, the environmental models and testing is incomplete, as Gernon and Wallace (1995: 86) note, "there is a need to factor dimensions other than culture such as industrialization and level of economic development, within a polycentric approach so as to recognize many of the factors in the accounting ecology of each country under consideration."

Surprisingly, given the wealth of theoretical work on the connection between levels of development and CFD, there is very little empirical evidence that links level of development and CFD and none that look explicitly at disclosure in emerging markets. Some early studies (Frank, 1979; Nair & Frank, 1981) do provide results which suggest that financial disclosure can be linked to economic systems and level of development among many other variables. Other more recent studies (Belkaoui, 1983; Belkaoui & Maksy, 1985) find no relationship between economic welfare and financial reporting. What appears to be an open question is whether differences in disclosure continue to exist between developed market countries and that subset of developing countries identified as emerging market economies. Further, little testing has been done to explain the modifying effect of the proven global control variables such as culture and stock market activities as they apply in emerging and developed market economies.

A MODEL OF CFDR: COOKE AND WALLACE (1990) AND BEYOND

The difficulty of obtaining reliable company or national level information on CFD for emerging market countries led in the late 1980s and early 1990s to examining CFDR rather than actual CFD. The seminal work in this area, Cooke and Wallace (1990), tests an environmental model of global differences in CFDR, with emphasis on the difference between developed and developing countries. This model (Figure 1) posits that effective regulation will be the outcome of an interaction between nominal accounting regulation and the willingness of companies to follow guidelines and enforcement mechanisms. Both nominal accounting regulation (those regulations that have been published) and the relative enforceability of such regulation are in turn directly affected by the internal and external environment. The final result of the regulation process, "effective accounting regulation", is analogous to CFD. Since the available data at that time did not provide a basis for the measurement of CFD in a reliable manner, Cooke and Wallace (1990) present CFDR as a testable precursor to the final level of CFD. Cooke and Wallace (1990) then test the proposition that level of CFDR is related to level of development.

The results from Cooke and Wallace (1980) can, at best, be described as mixed. Their initial non-parametric tests of differences in sample medians led to the view that "it was not possible to conclude that the developed countries differed significantly from the developing countries in the intensity of their CFDR" (Cooke & Wallace 1990:97). While Cooke and Wallace (1990, page 98, Table 4) subsequently link GNP per capita and level of CFDR, the result is statistically significant in only one of the four regression tests in which it appears.[1] This would appear to be less than compelling evidence that CFDR and economic development are linked. As Cooke and Wallace (1990) conclude, this lack of result may well be linked to the importation by emerging market countries of CFDR found in developed countries, particularly those with a colonial or economic dominance link. This being the case there would be no guarantee, since there is no underlying social or economic commitment to such imported standards, that CFD would mirror CFDR in these countries.

One of the more interesting results that reported by Cooke and Wallace (1990) is that for developing market countries, CFDR is positively and significantly related to indices which measure the quality of the climate for inward foreign investment. This raises the interesting point that CFDR may be envisaged as a mechanism for signaling that the country is open

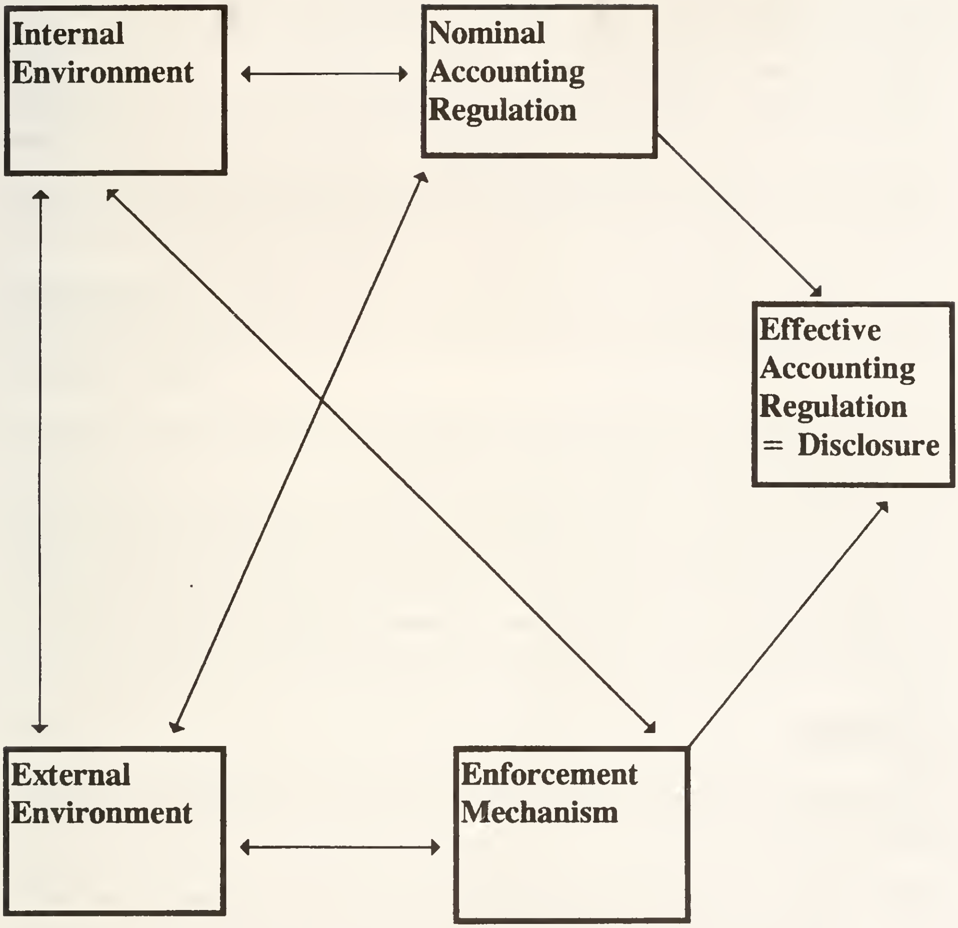

Figure 1. Cooke and Wallace (1990) Abbreviated Model

for business. It is perhaps not unreasonable to extend this result to the idea that effective regulation (CFDR) should precede higher levels of foreign investment in the years that follow.

Adhikari and Tondkar (1992) also test the relationship between CFDR and the environment. Adhikari and Tondkar's (1992) major contribution is in the use of an index of disclosure based on their examination of actual stock market listing and filing disclosure regulation for the world's 35 largest markets. As part of their model, Adhikari and Tondkar (1992) test the relationship between CFDR and development as measured by GNP per capita, along with stock market and other economic variables. No significant relationship between CFDR and level of development was found. The only significant relationship found was between CFDR and stock market capitalization for the two previous years.

Riahi-Belkaoui (1995) re-tests this relationship using the Adhikari and Tondkar (1992) index and interestingly does find a positive relationship with yet another measure of development, the United Nations Development Program's (UNDP) 1990 Human Development Index (HDI) (United National Development Program, 1990).

All of these results seem to indicate that the relationship between level of emergence from social/economic poverty and level of disclosure regulation is, at best, unclear. Further the CFDR literature provides only theoretical links between actual CFD, CFDR, and level of development. If the objective of CFDR is disclosure and CFDR does not lead to disclosure, it may be viewed as ineffective. This in turn, may lead to questioning the continuation of the regulatory process in its current form.[2]

Thus, despite the significant theoretical advances of the Cooke and Wallace (1990), Adhikari and Tondkar (1992), and Riahi-Belkaoui (1995) papers, the following interesting questions still remain unanswered:

1. Do companies in emerging market economies have different levels of disclosure from those in developed markets?
2. Is there a relationship between CFD and CFDR?
3. Is there a relationship between CFD and emergence from social/economic poverty?
4. Do certain measurements of social/economic emergence do a better job of explaining the relationship between CFD and social/economic emergence? and,
5. Building on the secondary findings of Cooke and Wallace (1990), is CFD and/or CFDR a form of effective signaling/inducement to foreign investors?

HYPOTHESES

The hypotheses that flow from the research questions in the immediately proceeding section are as follows:

Ha1: There is a lower national average level of corporate financial disclosure (CFD) for companies in emerging markets than for companies in developed markets.

Ha2: There is a positive relationship between levels of corporate financial disclosure (CFD) and corporate financial disclosure regulation (CFDR).

Ha3: There is a positive relationship between levels of corporate financial disclosure (CFD) and the base classification of a country's stock market as emerging or developed.

Ha4: There is a positive relationship between levels of corporate financial disclosure (CFD)and the levels of national economic income as measured by gross national product per capita (GNPpc).

Ha5: There is a positive relationship between levels of corporate financial disclosure (CFD) and the levels of socio-economic emergence as measured by the United Nations Development Programs (UNDP) Human Development Index (HDI) (UNDP, 1988-1995).

Finally, extending Cooke and Wallace's (1990:89) hypothesis that "countries with a favorable environment (high evindex[3] scores) are more likely to have more items under CFDR than those with low evindex scores," it is posited that one of the roles of effective CFDR is higher CFD and that the role of such CFD is to encourage future investment. The Cooke and Wallace (1990) finding that evindex is positively related to a country's CFDR is reinterpreted as a signaling hypothesis as follows:

Ha6: The level of corporate financial disclosure is positively related to the future level of foreign investment.

METHODOLOGY

Dependent Variables

The initial dependent variable in this study is CFD as measured by the mean volume of disclosure provided by firms in each country. (Table 1 contains a short description of each dependent and independent variable.) For the purposes of this study "The International Financial Reporting Index (IFRI) for Industrial Companies" from *International Accounting and Auditing Trends* for 1991,1993, and 1995 is utilized (CIFAR, 1991, 1993, 1995). The IFRI is based on the mean disclosure scores of a sample of the largest industrial companies in a country. Each company's scores are extracted from an examination of its annual reports 1989, 1991, and 1993 respectively. In each case, the annual reports in the Center for International Financial Analysis and Research library were examined for the inclusion or omission of 85 items.[4] Each one of the 85 items was either present or absent in the particular annual report. The data were then divided into seven broad categories: general information, income statement, balance sheet, funds flow statement, accounting policies, stockholders' information and supplementary information. Within each category the percentage of all available disclosed information items to all information items expected to be disclosed was calculated. The average of the seven categories was then calculated to provide the company IFRI, which in turn was averaged for a national IFRI. IFRI is, therefore, the mean index of national disclosure and has a theoretical range of zero to 100, with 100 indicating complete disclosure of all possible items. Appendix 2 provides a list of the items used by CIFAR in determining the IFRI scores.

The strengths of the CIFAR data are as follows:

1. It is based on actual annual reports rather than regulation or perception. For each annual report the analysts based in one of CIFAR's two centers for research identified the presence or absence of an item on the list of disclosures. Given that a 1/0 (present/absent) classification is used, there is very little scope for the data collector to interpret or impose his or her view of accounting in the country that is analyzed.
2. The data were audited by external sources (Cooke & Wallace, 1989). Cooke and Wallace's (1989: 48) summary evaluation was that "the compilers of the data reported in the two volumes have taken great care to prevent many of the inadequacies and pitfalls which feature in the previous data bases (Nobes, 1981), and a careful audit of the contents of this book did not reveal any significant biases and errors." Subsequent editions also completed a peer review process prior to publication.

Table 1. Definition of Variables

Variable Name	*Description*
Dependent Variables	
IFRI 89 IFRI 91 IFRI 93	Country averages of disclosure based on average disclosure across seven categories of the companies surveyed in a country. Items surveyed and data sources are described in Appendix 2. 89, 91, 93 indicate the year of the annual reports surveyed.
Control Variables	
UNCERT	Uncertainty Avoidance is the degree to which the members of a society feel uncomfortable with uncertainty and ambiguity. It is measured on a scale from 0 to 100 (with one exception, Portugal). Salter and Niswander (1995) find significant relationship between this variable and all of Gray's (1988) accounting values.
MARKET	Mean Market Capitalization in US$ divided by Gross Domestic Product in US$, for each of three periods immediately preceding the relevant IFRI index (1986-88,1986-90 and 1990-92).
Independent Variables	
ADTON	An unadjusted measure of corporate financial disclosure regulation used in Adhikari and Tondkar (1992)
EM	Whether market is classified as emerging or developed by the *Emerging Stock Markets Factbook* (International Financial Corporation, 1992, 1996) in the relevant year.
GCS	An measure of corporate financial disclosure regulation used in Cooke and Wallace (1990) based on the work of Gray, Campbell and Shaw (1984)
GNPC	Mean Gross National Product per capita in US$ for each of three periods immediately preceding the relevant IFRI index (1986-88, 1986-90 and 1990-92 as reported in the *World Development Report* (World Bank, 1988-1995).
HDI 86-88 HDI 88-90 HDI 90-92	Human Development Index for the relevant year as reported by the *United Nations Development Program Human Development Report.* Year represents actual year of data rather than date of the report.
DIRG 91 DIRG 92 DIRG 93	Foreign Direct Investment/Gross Domestic Product as reported in the *World Development Report.* Year represents actual year of data rather than date of the report.
PIG 92 PIG 93	Portfolio Investment/Gross Domestic Product as reported in the *World Development Report.* Year represents actual year of data rather than date of the report.

3. It clearly provides information on the number and nature of companies in each country (see Table 1).
4. The International Financial Reporting Index (IFRI) for Industrial Companies Index is available at three different points in time (*International Accounting and Auditing Trends* 1991,1993,1995. See CIFAR, 1991, 1993, 1995). This permits the testing of the results of the model for inter-temporal stability by repeating the analysis at three points in time.

Independent Variables

Economic emergence/development is a multi-faceted concept. Enthoven (writing in Nobes & Parker, 1991: 255) describes the process of social/economic emergence thus:

> ... economic development can be considered to be 1. a country's ability to increase its per capita income or production—i.e., a transitional process between economic stagnation and economic progress; and 2. the ability to execute a series of structural, social and economic changes and improvements—a transformation process, e.g., more equitable income distribution, improved medical services and housing, enhanced education and training, and greater employment.

Based on this statement it appears that emergence may be measured on three dimensions: (1) economic wealth; (2) socio-economic progress; and (3) a composite indicator of both.

In the literature on CFDR each of these has been utilized. The indicator variable used in Cooke and Wallace (1990) is the World Bank's classification of markets as developing or developed. In this study, for the purposes of testing Hypothesis 1, whether a difference exists between emerging and developed market CFD, this study uses a slightly different classification, i.e., the International Financial Corporations classification of a market economy as emerging or developed in the *Emerging Stock Markets Factbook* (International Financial Corporation, 1992, 1996). This variable (EM) is used as the classificatory variable in the test of difference of means (t-test) for CFD between samples of emerging and developed market economies. It is also used as an independent variable in the OLS Regression used to test Hypothesis 3.

In testing Hypothesis 2, a test of the relationship between CFDR and CFD, two measures of CFDR are used: GCS and ADTON. The first measure, GCS, uses data from Cooke and Wallace (1990, page 96, Table 3) which, in turn, was extracted from Gray Campbell and Shaw (1984). The second measures, ADTON, uses Adhikari and Tondkar's (1992) index of disclosure.

Hypotheses 3 through 5 test the efficacy of various measures of economic development in explaining disclosure levels. The construct of economic wealth, which is utilized in two of the recent studies (Cooke & Wallace, 1990; Adhikari & Tondkar, 1992) is operationalized as gross national product per capita (GNP). As there is likely to be some lag between a country's changing economic fortunes and resultant accounting change, mean GNP for the three years preceding any disclosure measurement is used with a one year lag to the date of the data. This lag is not out of line with the time taken to revise standards in many countries. Thus, the IFRI index data for 1991 (based primarily on 1989 annual reports) are related to the GNP per capita from 1986 through 1988 to test Hypothesis 4. Similar procedures were used for tests using the 1993 and 1995 IFRI indices. All data for GNP were extracted from the relevant *World Development Report* for the period 1988-1995 (World Bank, 1988-1995)

As pointed out above by Enthoven (in Nobes & Parker, 1991) and echoed by Cooke and Wallace (1990), social/economic emergence is also a process of social as well as economic change and may not be measured simply by economic wealth. A country may be apparently wealthy but not yet considered to have emerged as a market or economy, e.g., the high income, oil producing countries in the late 1970s. In order to deal with this problem, the test of Hypothesis 5 uses a second metric measure of overall emergence, the Human Development Index (HDI) (United Nations Development Program, 1988-1995). This index was previously found to be related to the Adhikari and Tondkar (1992) index by Riahi-Belkaoui (1995). The HDI is:

> ... an alternative measure of economic and social progress, because gross national product (GNP) is a poor measure of relative living standards. The index is a cocktail of

> life expectancy, adult literacy, average years of schooling and GDP per head (measured at purchasing-power parity). The UNDP now calculates the index for 173 countries. (*The Economist*, 1994: 110)

The Economist (1994: 110) goes on to point out:

> For some countries the gap (between GDP and the HDI) is wide. For example, China ranks only 143rd in terms of its GNP per head, but is in 94th position in terms of the index. By contrast, Gabon's ranking in the UNDP's index (114th) is miles below its 42nd position on GNP. South Africa, Saudi Arabia and the United Arab Emirates also rank much lower on the index. For rich countries the difference in ranking tends to be smaller. In 1994 Canada was top of the league (it ranks only 11th on GNP per head) followed by Switzerland (which ranks first on GNP). Japan, which topped the index in 1993, fell back to third place.

As with GNP, a one year lag and three year averaging procedure is used based on the year the data were collected by the United Nations Development Program (UNDP).

Hypothesis 6 (the signaling effect of CFD) proposes that if high levels of CFD does indeed indicate openness to foreign investment, actual levels of foreign investment after some period should indicate the success of the CFDR or CFD. This proposition is tested by correlating foreign direct and foreign portfolio investment as a percentage of GDP for the years after 1990 to IFRI for each of the years 1989, 1991, and 1993. In the case of portfolio investment these statistics are not available before 1992 and the analysis is limited to the period 1992-1993. Both foreign direct and foreign portfolio investment as a percentage of GDP are extracted from the *World Development Report* (World Bank, 1993-1995).

Control Variables

The regression contains two control variables. The first is uncertainty avoidance (UNCERT): "the degree to which the members of a society feel uncomfortable with uncertainty and ambiguity" (Hofstede, 1984: 84) and how they deal with it. The second is a measure of stock market capitalization (MARKET) in US$ as a percentage of gross domestic product for the relevant year. Gray's (1988) model and Salter and Niswander (1995) find that both variables have strong global explanatory power for national levels of disclosure. The latter has also been found by Adhikari and Tondkar (1992) to be related to CFDR at a global level. Taking these articles together it can be argued that if the impact of market emergence on CFD is to be tested, then the impact of universal dimensions that have been shown to impact disclosure levels, must be controlled for.

UNCERT is measured as the values reported in Hofstede (1991: 113)[5] on a scale from approximately 100 (extreme fear of uncertainty) to zero (having no fear of uncertainty). Actual minimum and maximum scores are 8 and 112.

MARKET is measured as the ratio of stock market capitalization to gross national product using the mean ratio for each of the three year periods immediately preceding the year for which the IFRI were calculated,1986 to 1988, 1988 to1990, and 1990 to 1992 respectively. The data source was the *Emerging Stock Markets Factbook* (International Financial Corporation 1992, 1996) and the *World Development Report* (World Bank, 1988-1995).

Table 2. Details by Country of the Sample

Countries	Number of Firms in Sample 1989	Number of Firms in Sample 1991	Number of Firms in Sample 1993	Market Capitalization 1993	GDP 1993
Emerging Markets					
Brazil	15	14	25	99,430	444,205
Chile	6	4	7	44,622	43,681
Colombia	6	6	6	9,237	54,076
Greece	4	4	5	12,319	63,240
India	12	29	9	97,976	225,431
Korea S.	5	7	8	139,420	330,831
Malaysia	8	18	15	220,328	64,450
Mexico	4	7	7	200,671	343,472
Nigeria	7	10	10	1,029	31,344
Philippines	6	8	10	40,327	54,068
Portugal	8	5	10	12,417	85,665
South Africa	12	21	20	171,942	105,636
Thailand	7	7	5	130,510	124,862
Turkey	5	5	5	21,605	156,413
Developed Markets					
Austria	15	9	14	28,437	182,067
Australia	23	25	27	203,694	289,390
Belgium	7	9	9	78,067	210,576
Canada	22	40	40	326,524	477,468
Denmark	6	14	15	41,785	117,587
Finland	7	16	15	23,562	74,124
France	65	64	49	456,111	1,251,689
Germany	38	52	56	463,476	1,910,760
Italy	9	13	17	136,153	991,386
Israel	5	6	5	50,773	69,739
Japan	74	96	101	2,999,756	4,214,204
Netherlands	22	22	20	181,876	309,227
Norway	5	12	15	27,380	103,419
Spain	10	15	15	119,264	478,582
Switzerland	7	14	15	271,713	232,161
Sweden	7	13	25	107,376	166,745
United Kingdom	44	83	81	1,151,646	819,038
New Zealand	6	5	10	25,297	43,699
U.S.A.	200	276	248	5,136,199	6,256,899
TOTAL	677	929	919	13,030,922	20,326,134

Sample

The initial sample consisted of all countries for whom data were reported in Edition 2 of *International Accounting and Auditing Trends* (CIFAR,1991) provided that the countries were also represented in subsequent editions. Deletions were made for Hong Kong and Singapore which were upgraded during the period from emerging to developed markets. Taiwan, which is considered part of China by the UNDP and World Bank, was also excluded because no comparable GDP and HDI statistics could be found. The result was a net sample of 33 countries including all but two of those used in Cooke and Wallace (1990) and 28 of the 35 countries included in Adhikari and Tondkar (1992). This sample covers in excess of 90 percent of total global stock market capitalization in US dollars for 1993 and approximately 86 percent of global GDP for the same year. (See Table 2 for details on the number of companies and the value of the stock markets and GDP of the countries.)

Analysis of the Data

To test Hypothesis 1, the data were analyzed using a parametric *t*-test[6] with the a 1/0 variable as a classification tool and IFRI for each of the years 1989,1991 and 1993 as the dependent variable. Hypotheses 2 was tested using Spearman non-parametric correlations.

Hypotheses 3 though 5 were tested for each of the IFRI data years (1989, 1991, 1993) using an OLS Regression in the following form:

$$IFRI_t = \alpha + \beta_1 EMERGENCE_p + \beta_2 UNCERT + \beta_3 MARKET_p + \varepsilon.$$

$IFRI_t$ represented the mean national disclosure scores for industrial companies for the years 1989,1991 and 1993. $EMERGENCE_p$ is first represented by EM (a 1/0 variable based on IFC classification as a developed or emerging market) and subsequently by gross national product per capita (GNPC) or the Human Development Index (HDI) for the three year period ending in the year prior to *t*. MARKET and UNCERT are as defined previously.

RESULTS

Table 3 shows initial *t*-tests for differences in each of the years' mean disclosure levels (IFRI) between developed and emerging market blocks are statistically significant.[7] The mean CFD for companies in developed markets is higher than for those in emerging markets for each of the three years. Throughout the period the mean disclosure level for emerging market economies rises (on a scale of 1 to 100) from 60.5 to 66.42, and that of developed market economies from 69.05 to 74.16. While CFD in emerging markets has

Table 3. *t*-test for Equality of Means on Disclosure for Industrial Firms

	Number of Countries	*Mean*	*t Value*	*Two Tail Significance*
1989 Industrial Index				
Emerging Markets	14	60.5000	-2.699	.011
Developed Markets	19	69.0526		
1991 Industrial Index				
Emerging Markets	14	63.5000	-2.581	0.015
Developed Markets	19	69.5623		
1993 Industrial Index				
Emerging Markets	14	66.4286	-2.976	.006
Developed Markets	19	74.1579		

Notes: In all years, Levine's Test for equality of variance cannot be rejected. Therefore, *t*-tests assume equal variance

Table 4. Correlation between CFD and CFDR Spearman Correlation Coefficients

	Subsamples			
A. Adhikari and Tondkar (1992)				
IFRI 89	.5518 Sig. .002			
IFRI 91	.5742 Sig. .001	.9158 Sig. .000		
IFRI 93	.5281 Sig. .004	.8899 Sig. .000	.9226 Sig. .000	
	ADTON 92	IFRI 89	IFRI 91	
B. Cooke and Wallace (1990)				
GCS	.5452 Sig. .016			
IFRI 89	.6267 Sig. .004	.2601 Sig. .282		
IFRI 91	.6230 Sig. .004	.1928 Sig. .429	.9293 Sig. .000	
IFRI 93	.5948 Sig. .007	.2207 Sig. .364	.8453 Sig. .000	.9225 Sig. .000
	ADTON	GCS	IFRI 89	IFRI 91

Notes: 1. Variables are defined in Table 1.
2. Samples reflect numbers available in Adhikari and Tondkar (1992) and Cooke and Wallace (1990): $N = 28$ and $N = 19$, respectively.
3. Table 3 should be read as coefficient/2-tailed significance.

risen slightly faster than in developed markets over the period 1989-1993, it is insufficient to close the gap and a statistically significant difference remained as of the end of 1993.

Table 4 displays the relationship between CFD and CFDR. The Adhikari and Tondkar (1992) measure of CFDR, ADTON,[8] is positively and significantly related to CFD at the $\alpha \leq .05$ level. GCS, the Cooke and Wallace (1990) measure of CFDR is positively but not significantly related to CFD. The correlations also indicate that GCS and ADTON are related. It appears that CFD and CFDR are related. However, over a period of time [the Cooke & Wallace (1990) measure precedes IFRI by seven years] this relationship decays.

Hypotheses 3 through 5 test whether CFD is related to various measures of social/economic emergence even after controlling for the global influences of culture and markets. In all years and for all combinations of variables the regression equations are significant at $\alpha \leq .05$. In addition, despite using a somewhat different sample from Salter and Niswander (1995) and Adhikari and Tondkar (1992), all of the tests of hypotheses find the control variables to be significant and in the direction predicted by these studies, providing continued support for the global importance of culture and markets to the determination of disclosure at a global level.

In Hypothesis 3 the relationship between disclosure and market status was tested. As can be seen from Table 5 (Panel A) the EM variable (classification as a developed [1] or emerging market [0]) is significant at $\alpha \leq .05$ for 1989,1991 and 1993.

Table 5

Panel A: Explaining Corporate Financial Disclosure Using a Classificatory Measure of Market Emergence—A Test of Hypothesis 3

Dependent	EM t value	EM sig. t	UNCERT t value	UNCERT sig. t	MARKET t value	MARKET sig. t	R^2	Sig. R^2
IFRI 89	1.968	.03	-2.919	.0035	2.712	.006	.517	.0000
IFRI 91	1.750	.046	-2.518	.009	2.366	.0123	.388	.001
IFRI 93	2.739	.005	-2.527	.0085	2.663	.0065	.474	.0000
N	33		33	33	33			

Panel B: Explaining Corporate Financial Disclosure Using GNP per Capita as a Measure of Economic Income—A Test of Hypothesis 4

Dependent	GNPC t value	GNPC sig. t	UNCERT t value	UNCERT sig. t	MARKET t value	MARKET sig. t	R^2	Sig. R^2
IFRI 89	1.845	.0375	-2.946	.0003	2.407	.0115	.483	.0000
IFRI 91	1.545	.0665	-2.560	.008	2.121	.0215	.374	.001
IFRI 93	2.085	.023	-2.657	.0065	2.345	.013	.424	.0000
N	33		33	33	33			

Panel C: Explaining Corporate Financial Disclosure Using the Human Development Index as a Measure of Socio-economic Emergence—A Test of Hypothesis 5

Dependent	HDI t value	HDI sig. t	UNCERT t value	UNCERT sig. t	MARKET t value	MARKET sig. t	R^2	Sig. R^2
IFRI 89	1.159	.128	-3.351	.0001	2.521	.0085	.448	.0000
IFRI 91	1.382	.089	-3.087	.002	2.019	.0265	.365	.001
IFRI 93	2.118	.021	-3.472	.001	1.936	.0315	.426	.0000
N	33		33	33	33			

Notes: 1. All variables are defined in Table 1.
2. All results are from an Ordinary Least Squares Regression.

Table 6. Spearman Correlation between CFD, CFDR and Investment

	Spearman Correlation Coefficients					
DIR 91	.4248 Sig. .065					
DIR 92	.3296 Sig. .125	.9295 Sig. .000				
DIR 93	.1969 Sig. .250	.8150 Sig. .000	.9295 Sig.			
PIG 92	.0156 Sig. .479	-.3359 Sig. .120	-.2581 Sig. .187	-.0079 Sig. .344		
PIG 93	.1497 Sig. .305	-.2470 Sig. .197	-.0267 Sig. .464	.1402 Sig. .316	.7753 Sig. .001	
IFRI 89	.1776 Sig. .272	.0773 Sig. .396	.0729 Sig. .402	.1834 Sig. .265	.4263 Sig. .064	.3996 Sig. .078
IFRI 91	.1048 Sig. .361	.1287 Sig. .330	.1021 Sig. .364	.1598 Sig. .293	.4731 Sig. .044	.2444 Sig. 200
IFRI 93	.2320 Sig. .212	.0044 Sig..49 4	-.0133 Sig. .482	.1282 Sig. .331	.3583 Sig. .104	.2913 Sig. 156
	ADTON 92	DIR 91	DIR 92	DIR 93	PIG 92	PIG 93

Note: 1. All variables are defined in Table 1.
2. DIR and PIG indicate direct and portfolio investment as a percent of GDP for the relevant year.
3. $N = 14$ for all correlations. N is limited to emerging market countries for which data are available.

Hypotheses 4 posits a relationship between gross national product per capita and level of disclosure. As Cooke and Wallace (1990) note for CFDR, wealthier countries can afford the infrastructure and effort of higher disclosure, less wealthy countries cannot. This direction is true for CFD in all of the time periods of this study. In Table 5 (Panel B) it can be observed that IFRI for 1989 and 1993 has a positive and significant relationship with gross national product per capita (GNPC) at $\alpha \leq .05$. For 1991 the relationship is positive but significant only at $\alpha \leq .0665$.

Hypothesis 5 tests the relationship between CFD and the Human Development Index (HDI). Should this hypothesis be supported it would argue that disclosure relates not only to affordability but also priorities as countries ration available wealth. In fact, as Table 5 (Panel C) illustrates, this relationship was only found to be significant and positive for 1993 at $\alpha \leq .05$. In 1991 the relationship is positive but only significant at $\alpha \leq .09$ and although positive, it is not significant at all for 1989. It is interesting to note that social wealth becomes increasingly important in the later years of the time period, implying that countries whose disclosure indices are improving are those that are moving upwards in the social development index (HDI).

Finally, Hypothesis 6 tested the relationship between CFD as a form of signaling and actual foreign direct investment and foreign portfolio investment. This test is conducted as Cooke and Wallace (1990) suggest solely for emerging economies. The results (Table 6) indicate that while CFDR, measured using the Adhikari and Tondkar (1992) index, is positively related to direct and portfolio investment as a percentage of GDP, the relationship is not significant at $\alpha \leq .05$.

There is however a significant relationship between CFD, as measured by IFRI 1991, and the 1992 portfolio investment at the $\alpha \leq .05$ level. Similarly, IFRI for 1989 has relatively weak relations, $\alpha \leq .10$ for portfolio investment in 1992 and 1993. The research indicates no relationship between CFDR and foreign direct investment.

Discussion of Results

The initial (*t*-test) results indicate that average level of CFD in emerging markets continues to be significantly lower than those in developed markets. This does not preclude exceptions to this result. Chile, for example, has higher disclosure than some developed markets such as Austria. It does however provide evidence of an ongoing problem. The findings are a vindication of Cooke and Wallace's (1990) hypothesis that development impacts on disclosure regulation, and when conjoined with the effectiveness of such regulation, to actual CFD. Given evidence in the extant financial literature (Alford, 1993) that information asymmetry and global market integration are inversely related, the persistent levels of difference found in this study between mean disclosure levels in emerging and developed market economies indicates that emerging market economies may be in need of assistance with the regulatory and enforcement process for financial reporting, if the global capital market is to be integrated. This would seem to argue strongly for the IASC to work on establishing a common disclosure GAAP rather than its current program in which efforts have been concentrated on measurement rather than disclosure. One brief rider to this is the need to make sure that rules are actually enforced as simple importation of rules may not be enough (see Donleavy, 1993, for some evidence on this). Findings on the relationship of CFDR and CFD offers hope in this area.

In examining how such a strong CFD might develop, the results of the OLS regressions provide some insight. Initially, these indicate that levels of national income (GNPC) may impact on the ability of a country to afford the creation and enforcement of extensive disclosure regulations. Richer countries tend not only to have more extensive regulation, but also to enforce those regulations that exist.

Perhaps more interesting is that (as shown in Table 5 Panel C) CFD in 1993 was also a product of social allocation as indicated by the positive relationship of IFRI and HDI. Even though some countries may not be as wealthy as others, the relative importance placed on social development can influence the level of disclosure. Thus, the will to disclose may grow out of improved social conditions, however with only one year's results this conclusion should be taken with some caution.

Finally, in the OLS results it is interesting to note that the measures of social/ economic emergence are important even after controlling for the global factors of culture and markets. As countries grow richer they disclose more. It is found that at a global level, a country's cultural predilections may hold back its progress towards full disclosure. A strong need for non-debt investor capital can, however, move even a relatively low disclosure, highly uncertainty avoidant country towards greater disclosure. The beta coefficients (which are not disclosed here for space reasons) show that a one percent increase in wealth or market capitalization has roughly equivalent positive impacts on disclosure patterns, while a one percent increase in uncertainty avoidance can lead to CFD being approximately half a point lower. This would mean countries with a high uncertainty avoidant cultural disposition will have to work harder at increasing disclosure than those with a less resistant cultural disposition.

The results of these disclosure studies are limited in value if we cannot formally make the link to investment. Portfolio investment in 1992 is linked to CFD for 1989 and 1991, indicating that prior CFD is related to levels of portfolio investment. Portfolio investment in 1993 is significantly related only to CFD in 1989. In either case, it appears that for emerging markets CFD precedes investment with a clear lag. Not surprisingly, foreign direct investment does not exhibit a similar link. Investors who make portfolio investments depend on public financial reporting data. Foreign direct investment is more likely to be green field (i.e., new physical facilities) and hence little concerned with historical accounting information. Even acquisitions are unlikely to be as dependent on public data as managers often seek to fulfill strategic rather than portfolio needs.

In conclusion, though not as strongly as one would like, there appears to be a causal link between CFDR, CFD and investment. CFDR can enhance CFD, and CFD in turn appears to be linked to portfolio investment. Those who desire to develop the investment potential of emerging markets first need to improve levels of effective CFDR and the resultant corporate financial disclosure.

CONCLUSION AND LIMITATIONS

This paper tested the relationship between national levels of disclosure and social/economic emergence of nations within the context of the Cooke and Wallace (1990) model. It finds that, as posited in the model, firms in developed market countries have a significantly higher mean level of effective disclosure than those in emerging market economies. This lack of disclosure is modified by the importance of markets and a relatively low level of the uncertainty avoidance culture variable and is directly related to the ability to draw foreign portfolio investment. While not tested, this may be extrapolated to imply that those countries that see rapid growth in their stock markets are likely to see the greatest growth in disclosure over time. This growth may be modified in high uncertainty avoidant countries by a national reticence about disclosure.

This study is limited by the sample used. The IFRI data are limited by the number of available annual reports in the CIFAR database. The basic CIFAR database represents the world's 1000 largest companies and is likely to provide information on those companies available for investment to the institutional community. The sub-sample used in this study takes particular care to ensure that disclosure practices are representative by selecting (with one exception) only those countries where at least five companies are used to distill the country averages.

The study can be improved if a larger number of firms can be studied in the emerging market countries or the relationship between disclosure and investment confirmed over a longer period of time. However, these data are simply not available at this time.

The IFRI disclosure index is calculated based on the presence or absence of certain disclosure items. Because measures of the depth and breadth of disclosure on each item were not available the data are less than perfect. Future studies may wish to use more detailed breakdowns when they become available, to form a company by country disclosure matrix. The literature review that preceded this study did not reveal any literature that effectively utilized depth and breadth items to determine disclosure effectiveness or its statistical relation to market reaction. The existence of such literature would be a pre-condition to any study attempting to use depth of disclosure as a dependent variable.

This study provides evidence that levels of CFD in emerging market economies appear to suffer from a structural deficit, i.e., even though there is growth in the level of disclosure from year to year, there still remains a significant difference in the level of CFD between emerging and developed market economies. It further posits that change is likely to be most difficult in countries where there is a culture of avoiding uncertainty and where the stock market is weak. Given that culture is relatively slow to change, the strongest influence for increases in CFD will be the demand for information that would arise from a growing stock market.

Finally the study finds that regulation alone is not enough. Evidence is presented that the Cooke and Wallace (1990) model of CFDR and CFD is correct and that for regulation to work there must be a strong desire and capacity for enforcing CFDR. In the absence of this, the CFDR of countries will draw ever closer together while their CFD will continue to move far apart.

Acknowledgments: The author would like to acknowledge the assistance of Professors Clare Roberts, David Sharp, and R.S.O. Wallace, and the anonymous reviewers, all of whose comments added greatly to the development of this manuscript.

Appendix 1. Summary of Significant Literature on Various Aspects of Disclosure, Markets and Environmental Variables

Author	*Year*	*Study*	*Data*	*Results*
Larson & Kenny	1995	The relationship in developing countries between the adoption of International Accounting Standards, Equity Market, equity market development and economic growth.	Used partial least squares (path analysis) to examine whether the degree of adoption of IAS was related to extant stock market capitalization/GDP and growth of GDP.	No significant relationship between adoption of IAS, market capitalization and economic growth.
Riahi-Belkaoui	1995	The cross-sectional relationship between economic growth, certain economic variables and accounting information adequacy.	Economic growth in 31 countries using stock market disclosure regulations from Adhikari and Tondkar (1992) and World Development Report (1993).	1. All variables significant. 2. Human Development Index (1990) found to be a significant explanator of Accounting Information Adequacy (the level of accounting disclosure measured by stock exchanges) along with growth in GNP.
Salter & Niswander	1995	The relationship between Gray's (1988) dimensions of accounting culture (including disclosure) and culture, economic and market variables.	1. Disclosure (CFD) measured using 1989 CIFAR data in 27 countries. 2. Independent variables include 4 Hofstede(1980) dimensions of culture, tax rates and stock market capitalization/GDP.	1. Disclosure was found to be statistically significantly negatively related to Uncertainty Avoidance and positively related to the Individual ism dimensions of Culture 2. Disclosure was positively related to stock market capitalization.
Alford et al.	1993	The relationship between (a) differences in capital market between countries, including disclosure practices and corporate governance, and (b) differences in the usefulness of accounting earnings.	Sample of 100 firm years in each of 16 developed markets tested for the value accounting information.	Value relevance of accounting earnings varies by countries, but with one exception there is a significant positive association. In only four countries is it more than the US.
Adhikari and Tondkar	1992	The relationship between CFDR and cultural, market and economic variables	Level of disclosure required by stock market regulation in 31 countries based on responses to a questionnaire on the stringency of stock market rules across sample countries.	1. Stock Market capitalization to GDP is the primary explanator of CFDR 2. Gross Domestic Product per Capita not a significant explanator.

(continued)

Appendix 1. Continued

Author	*Year*	*Study*	*Data*	*Results*
Needles et al.	1991	The degree of uniformity of pension disclosure across 6 European countries, and examine the association between selected institutional factors and disclosure patterns found.	1. Disclosure on mean national percent of firms reporting items in the annual report of 6 European countries. 2. Disclosure levels compared with regulatory stringency index based on a survey of two Big 6 firms per country.	No particular level of uniformity detected.
Cooke and Wallace	1990	The association Corporate Financial Disclosure Regulation and Level of Development	Survey data from Price Waterhouse (1979) and Gray, Campbell and Shaw (1984) to extract data on CFDR in 12 developed and 9 developing countries	1. "It was not possible to conclude that developed countries differ significantly from developing countries in the in the intensity of their CFDR" (p.97) 2. Some evidence of a linear relationship between GNP per capita and CFDR 3. Some evidence of a relationship between environmental factors (openness to investment) and disclosure regulation for developing countries.
Tyra	1970	The relationship between disclosure in four European countries.	1. The presence or absence of 15 selected items in the annual reports of 60 companies (15 in each of 4 countries). 2. Disclosure scores were related to descriptive non numerical factors	1. No empirical data were presented. 2. Conclusion s suggested "the relationship of financial disclosure to capital markets seems to be significantly less than is generally suggested" p.98. 3. Conclusion also suggests that legislation exerts a much greater influence on disclosure than either capital markets or the accounting professions.

Appendix 2. List of CIFAR Variables by Group (2nd edition)

Group A

General Business Information

1. Address/Telephone/Fax/Telex (at least one is given)
2. Product Segment
3. Geographic Segment
4. Management Information
5. subsidiaries Information
6. Future Plans/Chairman or CEO's Statement (at least exists)
7. Breakdown of employees
8. Fiscal Year-End

Group B

Income Statement

9. Consolidated Income Statement
10. Cost of Goods Sold Clearly Segregated
11. Complete Income Statement
12. Sales Reported
13. Sales, general and Administrative Expenses Reported
14. Operating Income Reported
15. Foreign Exchange Gains/Losses Reported
16. Extraordinary Gains/Losses Reported
17. Income Tax expense reported
18. Minority Interest Reported
19. Net Income Reported

Group C

Balance Sheet

20. Balance Sheet Fully Disclosed
21. Current Assets Separated from Fixed Assets
22. Current Liability Separated from Fixed Assets
22. Current Liability Separated from Long-Term Liability
23. Owners' Equity Separated from Liability
24. Separated of Non-Equity Reserves and retained earnings
25. Cash and Equivalents Reported
26. Accounts Receivable Reported
27. Inventories Reported
28. Current Assets Reported
29. Fixed Assets on Asset Side
30. Goodwill and Other Intangibles
31. Total Assets Can Be Derived
32. Shareholders' Equity Changes
33. Appropriation of Retained Earnings

Group D

Funds Flow Statement

34. Funds Flow Statement Disclosed
35. Extensive Funds flow Statement
36. Funds from Operations Separated
37. Funds Definition Exists
38. Cash Flow Statement

Group E

Accounting Policies

39. Accounting Standard
40. Financial Statements Cost Basis
41. 50% Long-Term Investment
42. Starting Point for Funds Statement
43. R&D Costs
44. Pension Costs
45. Reasons for Extraordinary Items
46. Inventory Costing Method
47. 20% Long-Term Investment
48. 21-50% Long-Term Investment
49. Acquisition Method
50. Accounting for Goodwill
51. Deferred Taxes
52. Outside Manager of Pension Funds
53. Long-Term Financial Leases
54. Foreign currency Method
55. Foreign Currency Translation Gain/Losses
56. Discretionary Reserves
57. Minority Interest Effect Separated
58. Contingent Liabilities

Group F

Stockholders' Information

59. Disclosure of Dividends Per Share
60. Disclosure of Earnings Per Share
61. Number of Shares Outstanding
62. Information if Multiple Share exist
63. Par Value
64. Total Dividends
65. Stock Split/Dividend/Rights (if applicable)
66. Stock Price
67. Stock Exchange Listing
68. Volume Traded

X69. Basic Shareholding data

70. Diluted Earnings Per share
71. Quarterly/Interim Dividends Reported

X72. Common share Outstanding Disclosed

73. Changes in Capital
74. Different Dividends for Multiple Classes of Share
75. Earnings Per Share for Multiple Classes of Share

X76. Majority Shareholders Disclosed

77. Significant Shareholders
78. Composition of Shareholdings

Group G

Special Items

79. Earnings Per Share Numerator
80. Earnings Per Share Denominator

81. Notes to Accounts
82. Disclosure of Subsequent Events
83. Remuneration of Directors and Officers
84. R&D Costs
85. Capital Expenditures
86. Financial Ratios Computed
87. List of Board Members and their Affiliations
88. Exports Reported
X89. Graphs/Charts/Diagrams
X90. Factory/Staff/Product Photographs

In 4th Edition but Not Found in 2nd Edition

Group G
SUPPLEMENTARY INFORMATION
85. Financial Summary

Note: ** "X" Denotes Not Found in 4th Ed.

NOTES

1. Cooke and Wallace (1990) test two models using two regression methods, ordinary least squares and modified generalized least squares. GNP is significant in one of the MGLS forms.
2. Emenyonu and Gray (1992) discuss this issue relative to harmonization in the European Community.
3. Evindex is an overall indication of the profit opportunity in a country, based on its political environment, probability of being able to remit dividends and return capital to the foreign investor, and the extent to which nationals are given preference over foreign companies. Further details are contained in Cooke and Wallace (1990), page 89.
4. The 1991 version uses 90 questions.
5. Hofstede (1991) contains data from 53 countries and regions. It includes data from Hofstede's (1980) original study of 39 countries and subsequent data collected between 1980 and 1990.
6. As the sample was relatively small, non-parametric tests were also carried out. The results using a Wilcoxon Rank Sum Test were identical to those of the parametric *t*-tests.
7. Throughout this paper, the expressions "significant" or "significantly" indicate differences significant at $\alpha \leq .05$ unless otherwise indicated .
8. The samples used to test these relationships reflect the countries available in Cooke and Wallace (1990) and Adhikari and Tondkar (1992).

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The International Journal of Accounting

Ownership Effects on Audit-Detected Error Characteristics: An Empirical Study in an Emerging Economy

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Key Words: Audit planning; emerging economy; error characteristics; ownership effects.

Abstract: *The presence of foreign subsidiaries and local companies, each playing a significant role in the local economy is a typical phenomenon in the business environment of emerging economies. The objective of this study is to extend the research concerning the relationship between environmental factors and error occurrence by examining the impact of organizational ownership (foreign subsidiaries in Hong Kong vs. local Chinese companies) on error characteristics. The second objective of this study is to examine the empirical characteristics of errors in an emerging economy, Hong Kong, with references to relevant U.S. studies. Hong Kong is part of the Chinese Economic Area, a Big Emerging Market identified by the U.S. Department of Commerce. In the past two decades, while there have been numerous empirical studies on error characteristics for U.S. audit data, there is a scarcity of such studies using non-U.S. data. Due to differences in organizational culture, nature of business transactions as well as accounting practices, the error characteristics detected in audit populations in emerging economies may be significantly different from those discovered in the U.S. Results of this study should facilitate audit efficiency and effectiveness through improved audit risk assessment for each ownership type company and should also alert management of multinational corporations to incorporate the potential differences in error patterns in designing and implementing effective accounting controls for companies outside the U.S.*

The Usefulness of Empirical Evidence on Error Characteristics

Recent studies have suggested that knowledge of financial statement errors is an important component of audit expertise (Kinney, 1975; Libby, 1985; Libby & Frederick, 1990). For example, auditors are shown to rely on their knowledge of population error frequency

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The International Journal of Accounting, Vol. 33, No. 2, pp. 235-261 **ISSN: 0020-7063.**

in analytical review (Tuttle, 1996). With the knowledge of error characteristics, auditors would have more accurate anticipation of errors. As a result, the efficiency and effectiveness of audit would be enhanced by placing greater focus on areas that are most likely to have errors (Bedard & Biggs, 1991). However, individual auditors in general experience relatively few audits, about 10 to 15 per year (Abdolmohammadi, 1987) and detected errors in financial statements are rare events (Wright & Ashton, 1989). Even the most experienced auditors have limited direct experience with financial statement errors (Ashton, 1991). Therefore, empirical evidence provided by aggregating and examining the data in audit workpapers helps overcome auditors' limited knowledge of errors through direct experience.

In the past two decades, numerous empirical studies have focused on the nature and frequency of errors detected in U.S. audit populations (e.g., Ramage et al., 1979; Johnson et al., 1981; Hylas & Ashton, 1982; Ham et al., 1985; Kreutzfeldt & Wallace, 1986; Bell & Knechel, 1994). With the increase in the availability of empirical evidence on error characteristics, auditors have been able to develop appropriate audit methodologies, sampling plans and associated estimators to infer total population errors (Neter & Loebbecke, 1975; Dworin & Grimlund, 1984; Chan, 1996). Information on the relative frequency of errors and the distribution of these errors are also useful for auditors to assess audit risk and to quantify prior judgments on the size of error in substantive testing (Steele, 1992, p. 102).

Environmental Factors Affecting Error Characteristics

More recent research has attempted to examine the relationship between error characteristics and environmental factors like internal control and audit firm type (Kreutzfeldt & Wallace, 1990; Icerman & Hillison, 1990, 1991; Wright & Wright, 1996; Petroni & Beasley, 1996). Information concerning the impact of internal control on error occurrence can enhance audit planning in different control strength settings. Our study examines the impact of different types of ownership on error characteristics. This information should be useful for auditors in audit planning for clients of different ownership and for corporate management in designing effective accounting controls.

Lack of Non-U.S. Studies on Error Characteristics

Although previous research in the U.S. has accumulated an extensive knowledge base of financial statement errors, little empirical evidence exists about the characteristics of errors detected in accounting populations outside the U.S. In particular, there is a scarcity of such studies in emerging economies. Johnson (1987) investigated the relationship between client characteristics and error type and size using U.K. data. Entwistle and Lindsay (1994) examined the existence, cause and discovery of income-affecting errors based on Canadian data. However, in these studies, no effort was made to compare the results with data from other countries. Houghton and Fogarty (1991) analyzed audit adjustments from U.S., U.K. and South African audit engagements to determine the environmental characteristics and conditions associated with the occurrence of errors. Their study focused primarily on the inherent risk characteristics of errors and had devoted little attention to investigating country differences.

The Growth of Emerging Economies and the Global Audit Market

Two megatrends in the decade ahead are the globalization of business and the growth of the emerging markets (Naisbitt & Aburdene, 1990). The Big Emerging Markets (BEMs) in Asia, which include the Chinese Economic Area (China, Hong Kong and Taiwan), attract enormous foreign direct investments from the world's most competitive multinational corporations (U.S. Department of Commerce, 1995). Of the world's ten largest recipients of foreign direct investment in the period from 1988 to 1992, seven were from the BEMs. During the period 1989 to 1993, U.S. direct investment in the BEMs increased by 125 percent as compared to the 23 percent increase for the G-7 countries (Garten, 1996). This rapid growth of multinational business activities has also accelerated the development of the global audit market. In order to serve these multinational clients, large international accounting firms, in particular the U.S.-based Big Six have increased their operations in these emerging markets directly or through affiliates. The effects of globalization on audit business are many. For example, differences may exist cross-culturally on the notions of what constitute appropriate internal controls and reliability of accounting data. Also, differences in the assessment of risk level and materiality may create barriers for implementing uniform audit approaches for international accounting firms. The current concern regarding the issues on audit risk, materiality and audit strategies is also reflected by the very high ranking of importance among auditing topics by accounting academicians (Bryan & Smith, 1997).

The presence of foreign subsidiaries and local companies, each playing a significant role in the local economy, is one of the common characteristics of business environment in emerging economies. Given the potential differences in organizational culture between foreign subsidiaries and local companies (Chow & Hwang, 1995), the error characteristics may be different for different ownership companies. The objective of this study is to examine the impact of different types of ownership (foreign subsidiaries vs. local companies) on audit-detected error characteristics. This information should be useful for auditors in formulating audit strategies for clients of different ownership. With the globalization of business, information about the differences in error attributes should also be useful for management of multinational corporations to design and implement effective administrative and accounting controls for subsidiaries outside the U.S.

Due to differences in business practices, nature of business transactions and accounting practices, the error characteristics detected in accounting populations in emerging economies may also be significantly different from those discovered in the U.S. Thus, the second objective of this study is to add to the profession's knowledge by providing empirical evidence on error characteristics in an emerging economy — Hong Kong. References will be made to the comparable results of relevant U.S. studies. Knowledge of error characteristics in different environments has the potential to enhance audit effectiveness and efficiency through improved audit risk assessments and the design of appropriate audit procedures tailored for the audit environment.

The remainder of this paper is organized as follows. Background literature and research hypothesis are discussed in the next section. Common error characteristics in the U.S. are then reviewed, followed by a description of the research method. The paper proceeds to analyze the empirical characteristics of errors detected in Hong Kong and compare them with relevant U.S. studies. Finally, the paper concludes with a summary of results and discussions.

BACKGROUND LITERATURE AND RESEARCH HYPOTHESIS

The Study of Error Characteristics in Hong Kong

Hong Kong was chosen for this study because of its unique characteristics as an emerging economy with a rapid growing audit market for international accounting firms (Lee, 1994), and because of its long tradition as a meeting point between East and West. Hong Kong has emerged as an international finance and trade center over the past several decades and is part of a Big Emerging Market identified by the U.S. Department of Commerce (1995). It is ranked the world's 8th largest trading entity in terms of total trade values in 1995 (Economic Information and Agency, 1996). The number of companies listed in the Hong Kong Stock Exchange has grown by over 60% in the past decade (The Stock Exchange of Hong Kong, 1986, 1996). Total market capitalization has increased more than tenfold from US$35,769 million to US$445,636 million during the same period. Furthermore, since the adoption of open door policy by the People's Republic of China (P.R.C.) in 1978, many multinational companies have established subsidiary companies in Hong Kong as a stepping stone for entering the China market. Among the Big Emerging Markets, the Chinese Economic Area (China, Hong Kong and Taiwan) represents by far the largest and one of the most important emerging markets both now and in the foreseeable future. According to a 1993 World Bank estimate, the combined gross domestic product of this area in the year 2002 will total approximately US$10 trillion. This figure would represent the largest single regional proportion, surpassing the U.S.' projected GDP of US$9.7 trillion (Garten, 1996). In view of these significant developments, Big Six have rapidly expanded their operations in both Hong Kong and China to meet the surged demand. Five of the Big Six have more than 1,000 professional staff members in Hong Kong with the smallest one having about 700 (SCMP, 1997).

Impact of Ownership Structure on Error Characteristics

Accounting and management control systems are seen to be manifestations of culture and reflect basic cultural assumptions (Hofstede, 1991, p.155). People of different national cultures have different preferences for, and reactions to, management practices. Accordingly, management philosophy, organizational culture and internal control systems are different for different cultural companies (Birnberg & Snodgrass, 1988). Chinese organizations are characterised by direct supervision and emphasize co-ordination through direct personal intervention of the owner and his/her relatives (Hofstede, 1991, p.153). The control environment and internal control system of Chinese companies are different from that of more formalized U.S. companies.

Hong Kong has the unique characteristics of having a mixture of Western and Chinese business cultures. The types of companies present in Hong Kong include subsidiaries of multinational companies and local Chinese companies. To facilitate better co-ordination, comparability and control, multinational corporations tend to develop and maintain home-country organizational cultures in overseas operations. This kind of coercive institutional isomorphism as suggested by DiMaggio and Powell (1983) results in the phenomenon that subsidiary companies often adopt parent company accounting practices, internal control system, performance and evaluation policies. Prior studies provide evidence that foreign subsidiaries often transplant home-country organizational cultures that differ from those of the local populace (Soeters & Schreuder, 1988; Chow & Hwang, 1995; Firth, 1996). Hence, the organizational culture of foreign subsidiaries in Hong Kong are likely to be different from those of local Chinese companies.

Since the strength of internal controls and management philosophy correlate significantly with the likelihood and nature of financial statement errors (e.g., Icerman & Hillison, 1990; Wallace & Kreutzfeldt, 1995; Wright & Wright, 1996), it is expected that the nature and frequency of errors detected would be different for different ownership companies. For example, with more formalized internal control systems, foreign subsidiaries in Hong Kong are expected to have less mechanical errors and lower error rates than local Chinese companies. To test the difference in error characteristics between different ownership structure, the following general hypothesis (in null form) is generated:

Ownership Effect

H_0: There are no significant differences in the direction, magnitude, variability, types, frequency and tainting distribution of errors detected between foreign subsidiaries and local Chinese companies in Hong Kong.

Comparison with U.S. Studies

Chinese society is characterised by having large power distance, strong uncertainty avoidance, less masculinity, long-term and collectivism orientated (Chow et al., 1995). The societal values of strong avoidance and large power distance prescribe that people would tend to adhere to rules and regulations. In an organizational context, staff would follow the prescribed operational procedures as closely as possible. According to Gray (1988), accounting values most relevant to the enforcement of accounting systems are professionalism and uniformity. Hong Kong is classified as having lower professionalism and greater preference for uniformity than Anglo-American countries. These differences in societal and accounting values in Hong Kong may affect the occurrence of financial statement errors. For example, given the fact that foreign subsidiaries often adopt parent company accounting practices, internal control system and transplant home-country organizational culture as discussed above, the stricter compliance with rules and regulations by the Chinese accounting personnel in foreign subsidiaries in Hong Kong may lead to less routine errors compared to companies operating in Anglo-American countries.

Results of the Hong Kong sample, particularly foreign subsidiaries are analyzed with reference to Ham et al. (1985) and other U.S. studies to examine the country differences and to determine the universality of some error characteristics found in prior literature. Results in Ham et al. (1985) were chosen as the main reference for U.S. studies because of the similarities of the data sets. The nature of the companies selected in this study resembles closely that of Ham et al. (1985) in terms of firm size, as well as to the fact that both samples consist of private companies. However, because of the difference in time periods of the samples studied (Hong Kong: 1990-1992, Ham et al.: five annual audits prior to 1985) and other extraneous factors, no formal hypothesis is set to test the level of significance of the difference in the error characteristics between foreign subsidiaries in Hong Kong and Ham et al. (1985). It should be mentioned that as prior error studies at different time periods (1975–1996) show consistency in major error characteristics, including error directions, error magnitude and frequency (see next section), the different time periods of the samples studied may not be a hindrance for general comparison.

ERROR CHARACTERISTICS IN PRIOR STUDIES

Previous research on error characteristics includes empirical studies on different attributes of error detected, such as the causes, frequency and distribution of errors, and the environmental effects on error characteristics. The great majority of prior studies provide evidence on error characteristics of U.S. accounting populations (e.g., Ramage et al., 1979; Johnson et al., 1981; Hylas & Ashton, 1982; Kreutzfeldt & Wallace, 1986; Icerman & Hillison, 1990, 1991) with a few exceptions for Canada, U.K. and South Africa (e.g., Johnson, 1987; Entwistle & Lindsay, 1994; Houghton & Fogarty, 1991). Results of these studies suggest that accounting populations do possess a number of common characteristics. Some of the more salient features for auditing are as follows:

1. Populations may have overstatement errors only, understatement errors only, or both. Most errors in accounts receivable audit are overstatements, while in inventory audits, errors tend to be more evenly distributed between overstatements and understatements (Johnson et al., 1981; Ham et al., 1985; Willingham & Wright, 1985). Detected accounts payable and purchase errors tend to be understatements while sales errors tend to be overstatements (Ham et al., 1985; Kreutzfeldt & Wallace, 1986). With the exception of inventory, the results confirm the common assumption made by auditors that assets and revenue errors are likely to be overstatements while liabilities and expense errors are likely to be understatements.
2. Cutoff and mechanical errors represent the most likely source of material financial statement error for inventory, accounts receivable and accounts payable (Hylas & Ashton, 1982; Ham et al., 1985; Bell & Knechel, 1994; Entwistle & Lindsay, 1994).
3. The error incidence (the proportion of accounts that are in error) varies significantly among accounting populations and the error rates in inventory audits tend to be substantially higher than those for accounts receivable (Johnson et al., 1981; Ramage et al., 1979).
4. The distributions of taintings (the proportion of a dollar unit that is in error) are non-normal and characterised by pronounced discontinuities at +100%, particularly so for accounts receivable for which 100% overstatement errors are frequently present (Johnson et al., 1981; Neter & Loebbecke, 1975). One of the explanations suggested for this phenomenon is that a 100% overstatement tainting may reflect a single transaction, while smaller taintings may reflect accounts with numerous transactions. An entire account receivable may not be confirmed due to dispute over one invoice or a confirmation cut-off problem.

Despite the above common features, certain inconsistencies were found among prior studies. For example, a number of studies found that errors in accounts receivable favour overstatements (Ramage et al., 1979; Johnson et al., 1981; Kreutzfeldt & Wallace, 1986; Icerman & Hillison, 1990, 1991), but Johnson (1987) found only a slight bias toward overstatements.

In addition, the occurrence of errors in financial statements is found to be affected by a number of environmental factors like inherent and internal control risks. For example, Kreutzfeldt and Wallace (1986), Wright and Wright (1996) found that as assessed internal control weakens, the frequency of errors increases and the adjustments are more likely to have an effect on income. Icerman and Hillison (1990) also provided evidence that the strength of internal control correlates negatively with error rates.

In summary, previous research has accumulated an extensive knowledge base of financial statement errors predominantly from North American data. However, there are very limited findings regarding the nature, frequency and distribution of errors across different cultural settings. In particular, there has been no studies on error characteristics in the Chinese business culture.

RESEARCH METHODOLOGY

Data Collection

Data in this study were obtained from an international accounting firm in Hong Kong. All major prior empirical studies on error characteristics adopt this single-firm approach of data collection (Ramage et al., 1979; Ham et al., 1985; Kreutzfeldt & Wallace, 1986, 1990; Wright & Ashton, 1989; Wallace & Kreutzfeldt, 1995; Wright & Wright, 1996, 1997). Testing the differences in error characteristics detected for samples from the same accounting firm is a rather conservative approach as the error differences may be understated due to the clientele effect. It is possible that companies choosing the same accounting firm may tend to have similar error characteristics. Though this single-firm approach may have limited the examination of the differences in the effects of ownership that would have been possible had the audit files been selected from more than one international accounting firm, this is a good procedure to facilitate the comparability of data and to control for the confounding effects of the differences in the audit client portfolios and audit procedures across different accounting firms.

One of the distinguishing features of this study is the control over the data collection process yielding more reliable results. As the data were extracted directly by the researchers from the audit working papers, this data collection procedure helps reduce the potential variation in the definition of errors among auditors. For example, one auditor may consider additional provision for bad debts as an error whereas another may not. Since this study focused on balances before any adjustments for such provisions, it consistently excluded all these "errors" from the data analysis and eliminated this potential source of variation. More important is that this direct assessment of data allowed the researchers to identify the causes of the errors and also to understand how auditors dispose the errors found. Without detailed review of the working papers, it is hard to identify the unreconciled differences of customer accounts not investigated by auditors due to their perceived immateriality, as will be explained later. Most of the previous studies collected data by sending questionnaires to accounting firms (e.g., Johnson et al., 1981; Kreutzfeldt & Wallace, 1986, 1990; Entwistle

Table 1. Number of Audits Used in This Study Categorized by Ownership Type and Firm Size

	Average Net Sales (Million U.S. Dollars)			
Ownership Type	*Small (<$10)*	*Medium (>$10)*	*Total*	*% Distribution by Ownership Type*
Foreign subsidiaries	62	37	99	61%
Local Chinese companies	38	24	62	39%
Total	100	61	161	100%
% distribution by size (Net Sales)	62%	38%	100%	
% distribution by ownership type for each size (Foreign Subsidiaries v. Local Chinese Firms)	62% v. 38%	61% v. 39%		

& Lindsay, 1994). Only Ham et al. (1985) had more control over the data collection as they were physically present to supervise and answer the questions of the audit staff who collected the data for them.

Our data include audit files of three annual audits (1990–1992) for 60 companies. The sample reflects a wide range of firms in terms of size and industry. Using average net sales over the three years (1990–1992), company size ranges from US$1.2 million to US$450 million. All companies in the sample are in non-regulated industries which include a cross-section of manufacturing and service-oriented firms. Regarding the ownership, 37 companies are foreign subsidiaries (of which 29 are subsidiaries of U.S. companies) and the other 23 are local Chinese companies. The foreign subsidiaries are similar to the local Chinese companies in terms of size (net sales), and both include a cross-section of service and manufacturing firms. Some of the companies had less than three years' audit files available for the authors' examination because of a change in auditors. Therefore, the number of annual audit files used in this study fell from 180 to 161. The data of Ham et al. (1985) were from the audit files of five annual audits for each of 20 companies selected by Price Waterhouse (Table 1).

Observations were collected from three accounting categories, namely, accounts receivable, accounts payable and inventory. The balances of these three ledger accounts usually have a significant impact on the financial statement and are more vulnerable to have errors (Hylas & Ashton, 1982; Wright & Ashton, 1989; Entwistle & Lindsay, 1994). Like the study by Ham et al. (1985), all tests reported in these audits had been performed on samples selected on a judgmental basis. This is consistent with a recent survey on Hong Kong CPA firms which revealed that judgmental sampling was predominantly used by practitioners (Ng & Ho, 1993), and that most of the companies in Hong Kong are small to medium-sized (Sit & Wong, 1989, p.27).

Definition of Errors

An error is defined as a non-zero difference between the book and the audit values for an item. The book value is the amount recorded by the client before audit and the audit value is the amount deemed by the auditor to be the correct value for that item. No differentiation was made between adjusting and non-adjusting errors as excluding the latter would distort the underlying error patterns.

In this study, classification errors refer to the situation where the items tested have been posted to a wrong accounting category. An example of misclassification would be fixed asset being included as inventory. These errors involve balance-sheet types of accounts and would not have significant effect on net income. This definition of classification errors is similar to that defined by Ham et al. (1985, p.391).

EMPIRICAL CHARACTERISTICS OF ERRORS IN HONG KONG

Direction of Errors

The directions of errors detected in accounts receivable, accounts payable, and inventory are summarised in Table 2. According to the above definition for classification errors, occurrence of this type of error would also have the effect of overstating or understating the accounts balance. However, they are classified as a separate category for the discussion of directions of errors due to their special nature.

Ownership Effect

Chi-square tests were performed to test the difference in the distributions of the direction of errors between foreign subsidiaries and local Chinese companies. When classification errors were excluded, results for foreign subsidiaries in Hong Kong were significantly different from local Chinese companies for accounts payable only. When classification errors were included in the Chi-square tests, significant differences were found for accounts payable and inventory. The significant difference in inventory between foreign subsidiaries and local Chinese companies is due to the large number of classification errors found in foreign subsidiaries. Reasons for this finding are explored in the types of errors section to be discussed later.

Accounts payable errors found in local Chinese companies tend to be overstatement errors while the errors found in foreign subsidiaries tend to be understatement errors. Most of the overstatement errors found in local Chinese companies were mainly mechanical mistakes which were related to the purchases of raw materials from suppliers in the People's Republic of China (P.R.C.). The companies were required to make prepayments to those suppliers before goods were received. When vendors' invoices were received, the accounting staff of the companies recorded the acquisitions in accounts payable without netting off from prepayments. Although foreign subsidiaries may make similar errors when dealing with P.R.C. suppliers, in general, they have relatively fewer transactions with these suppliers. This finding reflects the importance of auditors' understanding about the culture and practices of clients' business environment in detecting errors. This also has the implication for management to design and implement effective controls to prevent duplicate payment to suppliers.

Table 2. Direction of Errors

	Foreign Subsidiaries		*Local Chinese Firms*		*Hong Kong Total*	
Number of	*#*	*%*	*#*	*%*	*#*	*%*
(a) Accounts Receivable						
Overstatement Errors	71	57	24	58	95	57
Understatement Errors	36	29	8	20	44	27
Classification Errors	18	14	9	22	27	16
Total Number of Errors	125	100	41	100	166	100

Notes: Chi-square test for the difference in the direction of errors between foreign subsidiaries and local Chinese firms:
χ^2 (including classification errors) (d.f.=2) = 3.440;
χ^2 (excluding classification errors) (d.f.=1) = 1.947.

(b) Accounts Payable						
Overstatement Errors	51	41	61	49	112	45
Understatement Errors	67	53	39	32	106	42
Classification Errors	8	6	24	19	32	13
Total Number of Errors	126	100	124	100	250	100

Notes: Chi-square test for the difference in the direction of errors between foreign subsidiaries and local Chinese firms:
χ^2 (including classification errors) (d.f.=2) = 12.659*;
χ^2 (excluding classification errors) (d.f.=1) = 6.49*.
* Reject the null hypothesis that the proportions are the same at the 0.05 level.

(c) Inventory						
Overstatement Errors	139	31	114	57	253	39
Understatement Errors	125	28	83	42	208	32
Classification Errors	185	41	3	1	188	29
Total Number of Errors	449	100	200	100	649	100

Notes: Chi-square test for the difference in the direction of errors between foreign subsidiaries and local Chinese firms:
χ^2 (including classification errors) (d.f.=2) = 48.577*;
χ^2 (excluding classification errors) (d.f.=1) = 0.731.
* Reject the null hypothesis that the proportions are the same at the 0.05 level.

Comparison with U.S. Studies

Except for accounts payable, results of the Hong Kong sample are consistent with prior studies. Accounts receivable errors tend to be overstatement errors while inventory errors are fairly balanced between overstatements and understatements. Detected accounts payable errors in this study are quite evenly spread between overstatements and understatements and this is different from the results of U.S. studies for which accounts payable tends to be understated (Johnson et al., 1981; Ham et al., 1985; Kreutzfeldt & Wallace, 1986; Icerman & Hillison, 1990). This phenomenon is a net result of the ownership effect on accounts payable as the understatement errors found in foreign subsidiaries were balanced by the overstatement errors found in local Chinese companies.

Focusing on foreign subsidiaries, directions of errors found are consistent with Ham et al. (1985) and other prior studies for all three accounting categories when classification errors were excluded from the comparison. However, when classification errors were included, significant differences were found for accounts receivable and inventory. Thus, classification errors represent the major cause for the differences between foreign subsidiaries in Hong Kong and Ham et al. (1985).

In summary, these results indicate that the direction of errors of foreign subsidiaries differs more from local companies than from U.S. companies. This result confirms our earlier expectation of cultural influence.

Magnitude of Errors

To test whether there is any significant difference in error magnitude among accounting categories, absolute values of the mean net errors of each accounting category were ranked from the largest (Rank 1) to the smallest (Rank 3) for each company.

Ownership Effect

Table 3 shows that the mean ranks among the three accounting categories are more dispersed in local Chinese companies than in foreign subsidiaries. Results of the Chi-square tests show that the distributions of the relative magnitude of mean errors for foreign subsidiaries differ significantly from those of local Chinese companies for accounts receivable and inventory. Compared to foreign subsidiaries, local Chinese companies had smaller mean errors for accounts receivable and inventory. To better understand whether these differences in error magnitudes are due to the differences in the relative significance of accounts receivable to overall sales or of inventory to overall purchases, t-tests were conducted to test the differences in the mean ratios of accounts receivable to sales and of inventory to purchases between foreign subsidiaries and local Chinese companies respectively. Results of the tests indicate that the mean ratio of accounts receivable to sales for foreign subsidiaries (0.25) is significantly greater than that of local Chinese companies (0.11) ($p < 0.0001$), whereas there is no significant difference in the mean ratio of inventory to purchases (0.12 v. 0.15, $p = 0.1536$) between foreign subsidiaries and local Chinese companies. Hence, plausible explanation for the smaller mean errors for accounts receivable found in local Chinese companies may be due to lower accounts receivable balance as a percentage of total sales because Chinese companies tend to have more cash sales.

Comparison with U.S. Studies

As shown in Table 3, accounts payable errors in the Hong Kong sample are on average the largest of the three accounting categories and accounts receivable errors have the smallest mean ranking. Foreign subsidiaries in Hong Kong had larger inventory errors but smaller accounts receivable errors. These results differ clearly from the U.S. studies (Johnson et al., 1981; Ham et al., 1985) where accounts receivable errors are the largest and inventory errors are the smallest.

Variability of Errors

Similar to the magnitude of errors, the variability of errors as measured by the coefficients of variation among the three accounting categories were ranked from the largest (Rank 1) to the smallest (Rank 3) for each company. The objective of this ranking is to determine whether the errors of any one accounting category are more highly variable than

Table 3. Relative Magnitude of Mean Errors in Absolute Dollars

	Foreign Subsidiaries		*Local Chinese Firms*		*Hong Kong Total*	
Rank	*#*	*%*	*#*	*%*	*#*	*%*
(a) Accounts Receivable						
(1) (greatest)	4	20	2	13	6	17
(2)	10	50	4	27	14	40
(3) (smallest)	6	30	9	60	15	43
Mean Rank	2.1		2.5		2.3	

Chi-square test for the difference in distributions of relative magnitude of mean errors between foreign subsidiaries and local Chinese firms: χ^2 (d.f.=2) = 18.36*.
*Reject the null hypothesis that the distribution of relative magnitude of mean errors are the same at the 0.05 level.

	Foreign Subsidiaries		*Local Chinese Firms*		*Hong Kong Total*	
(b) Accounts Payable						
(1) (greatest)	8	40	8	53	16	46
(2)	7	35	5	33	12	34
(3) (smallest)	5	25	2	14	7	20
Mean Rank	1.9		1.6		1.7	

Chi-square test for the difference in distributions of relative magnitude of mean errors between foreign subsidiaries and local Chinese firms: χ^2 (d.f.=2) = 4.98.

	Foreign Subsidiaries		*Local Chinese Firms*		*Hong Kong Total*	
(c) Inventory						
(1) (greatest)	9	47	5	33	14	41
(2)	4	21	6	40	10	29
(3) (smallest)	6	32	4	27	10	30
Mean Rank	1.8		1.9		1.9	

Chi-square test for the difference in distributions of relative magnitude of mean errors between foreign subsidiaries and local Chinese firms: χ^2 (d.f.=2) = 8.78*
*Reject the null hypothesis that the distribution of relative magnitude of mean errors are the same at the 0.05 level.

Note 1: To illustrate the ranking process, the mean errors in absolute dollars and their ranks for Company # 4 are shown as below:

	Accounts receivable	Accounts payable	Inventory
Mean error	154,874.64	2,700.00	79,704.09
Rank	1	3	2

For example, results in Table 3(a) can be interpreted as follows. There were four foreign subsidiaries in Hong Kong whose mean errors in accounts receivable are greater than their mean errors in accounts payable and inventory. There were six foreign subsidiaries in Hong Kong whose mean error in accounts receivable are smaller than their mean errors in accounts payable and inventory.

Note 2: Companies having errors in one accounting category only were excluded from the analysis.

the errors of other accounting categories. Table 4 shows the results of the distributions of the relative degree of variability for the Hong Kong sample.

Ownership Effect

The underlying distributions of the degree of variability differ significantly between foreign subsidiaries and local Chinese companies for accounts payable according to our Chi-square tests at $\alpha = 0.05$. Accounts payable errors in foreign subsidiaries vary more than that in local Chinese companies. This may be explained by the difference in the distributions of the types of errors found (see Table 5, Part b). For foreign subsidiaries, there were a signif-

Table 4. Relative Degree of Variability

	Foreign Subsidiaries		Local Chinese Firms		Hong Kong Total	
Rank	*#*	*%*	*#*	*%*	*#*	*%*
(a) Accounts Receivable						
(1) (greatest)	4	20	4	27	8	23
(2)	6	30	5	33	11	31
(3) (smallest)	10	50	6	40	16	46
Mean Rank	2.3		2.1		2.2	

Chi-square test for the difference in the distributions of relative degree of variability between foreign subsidiaries and local Chinese firms: χ^2 (d.f.=2) = 2.30.

(b) Accounts Payable						
(1) (greatest)	7	35	5	36	12	35
(2)	10	50	4	28	14	41
(3) (smallest)	3	15	5	36	8	24
Mean Rank	1.8		2.0		1.9	

Chi-square test for the difference in the distributions of relative degree of variability between foreign subsidiaries and local Chinese firms: χ^2 (d.f.=2) = 14.87*

* Reject the null hypothesis that the distributions of relative degree of variability are the same at the 0.05 level.

(c) Inventory						
(1) (greatest)	10	53	6	40	16	47
(2)	5	26	6	40	11	32
(3) (smallest)	4	21	3	20	7	21
Mean Rank	1.7		1.8		1.7	

Chi-square test for the difference in the distributions of relative degree of variability between foreign subsidiaries and local Chinese firms: χ^2 (d.f.=2) = 4.81

Note: Companies having errors in one accounting category only were excluded from the analysis.

icant number of large cutoff errors and immaterial "not identified" errors. Therefore, the overall error magnitude vary greatly.

Comparison with U.S. Studies

The overall findings of the present study as shown in Table 4 indicate that accounts receivable errors in the Hong Kong sample have the smallest variability whereas inventory has the largest. The high variability of inventory errors may be due to the difference in error magnitude found between testing individual inventory items and year-end cutoff problems. For instance, average pricing error of individual inventory items for one of the manufacturing companies in the sample was around US$100, but the cutoff error was more than US$40,000, and the resulting coefficient of variation was about 24.

Ham et al. (1985) found no difference in the variability of errors among accounting categories based on the standard deviations of the error distributions (Ham et al., 1985, Table 4, p. 392). However, relative measure of the dispersion is a more appropriate index to use to compare variability. To facilitate comparison, the ranking of Ham et al.'s results was reconstructed using the coefficient of variation of the errors. Results of the revised ranking suggest that inventory errors are more highly variable than the errors of the other accounting categories, consistent with the Hong Kong results.

Types of Errors

The new methodology of direct assessment of data in audit working papers allows us to have a more in-depth examination of different types of errors in this study. The types of errors were classified in more details than the Ham et al.'s study by including errors due to discrepancies "not identified". This type of error has not been investigated in prior studies. These errors occur mainly when the book value of an item audited does not agree with the value confirmed by customer or supplier. During substantive testing, auditors would reconcile the material difference but very often no further investigation would be done if the unreconciled difference is perceived to be immaterial. However, the concept of materiality should not be used at this stage as small difference may be due to netting off of large overstatement and understatement of balances in the customer account.

Table 5 shows that 37% and 24% of errors found in accounts receivable and accounts payable respectively of the Hong Kong (total) sample, fall into the "Not identified" type. For foreign subsidiaries, these percentages are 38% and 32% respectively for accounts receivable and accounts payable. The significant number of unreconciled account balances found should alert management and auditors to the possible existence of fraud. Control procedures should be strengthened in these areas to prevent and detect any fraudulent transactions.

Ownership Effect

Results in Table 5 show that the hypothesis can be rejected for all three accounting categories at 5% significance level, indicating a significant difference between local Chinese companies and foreign subsidiaries on the types of errors found. Cutoff errors for accounts payable in local Chinese companies occurred less frequently and represented insignificant dollar amount. The unique business practices of P.R.C. suppliers requiring prepayments and issuance of letters of credit for purchases explain this phenomenon. It is because companies would be more alert to the timing of transactions and less unrecorded liability would be resulted if purchases made near year end were not recorded in the proper period. More and larger mechanical errors as well as inventory pricing and valuation errors were found in local Chinese companies than in foreign subsidiaries. These differences may be attributed to weaker internal control systems established in local Chinese companies.

Comparison with U.S. Studies

In addition to the difference in "Not identified" errors discussed above, classification errors represent another major cause of difference between the Hong Kong sample and Ham et al. (1985). In particular, classification errors in Hong Kong represented 13% to 29% of the total number of errors found in the three accounting categories. Classification errors in accounts receivable include misclassifying promotional charges claimable from customers, claims settlement receivable etc. as accounts receivable. For accounts payable, classification errors normally arise when sales discounts payable to customers are included in accounts payable. Whereas for inventory, classification errors mainly result from the inclusion of fixed assets in inventory. This type of error was minimal in Ham et al.'s (1985) investigation.

Table 5. Types of Errors

(a) Accounts Receivable

Number of (frequency)	*Foreign Subsidiaries*		*Local Chinese Firms*		*Hong Kong Total*	
	#	*%*	*#*	*%*	*#*	*%*
Cutoff	28	22	4	10	32	19
Pricing & Valuation	12	10	10	24	22	13
Mechanical	6	5	2	5	8	5
Classification	18	14	9	22	27	16
Not identified	47	38	14	34	61	37
Others	14	11	2	5	16	10
Total	125	100	41	100	166	100

Chi-square test for the difference in the distributions of types of errors (frequency) between foreign subsidiaries and local Chinese firms: χ^2 (d.f.=5) = 14.515*.

Absolute Error Amount ($000)	*Foreign Subsidiaries*		*Local Chinese Firms*		*Hong Kong Total*	
	US$	*%*	*US$*	*%*	*US$*	*%*
Cutoff	3908	68	134	21	4042	63
Pricing & Valuation	73	1	30	4	103	2
Mechanical	548	10	81	12	629	10
Classification	415	7	266	41	681	11
Not identified	458	8	135	21	593	9
Others	335	6	8	1	343	5
Total	5737	100	654	100	6391	100

Chi-square test for the difference in the distributions of types of errors (absolute amount) between foreign subsidiaries and local Chinese firms: χ^2 (d.f.=2) = 46.746*.

* Reject the null hypothesis that the distributions of types of errors are the same at the 0.05 level.

Note: Cells with expected value less than 5% were grouped with the next cells for Chi-square test.

(b) Accounts Payable

Number of (frequency)	*Foreign Subsidiaries*		*Local Chinese Firms*		*Hong Kong Total*	
	#	*%*	*#*	*%*	*#*	*%*
Cutoff	24	19	10	8	34	14
Pricing & Valuation	17	13	11	9	28	11
Mechanical	22	18	47	38	69	28
Classification	8	6	24	19	32	13
Not identified	40	32	22	18	62	24
Others	15	12	10	8	25	10
Total	126	100	124	100	250	100

Chi-square test for the difference in the distributions of types of errors (frequency) between foreign subsidiaries and local Chinese firms: χ^2 (d.f.=4) = 13.147*

Absolute Error Amount ($000)	*Foreign Subsidiaries*		*Local Chinese Firms*		*Hong Kong Total*	
	US$	*%*	*US$*	*%*	*US$*	*%*
Cutoff	1738	44	80	2	1818	21
Pricing & Valuation	467	12	25	0	492	6
Mechanical	458	12	1603	34	2061	24
Classification	629	16	2908	61	3537	40
Not identified	99	2	107	2	206	2
Others	569	14	36	1	605	7
Total	3960	100	4759	100	8719	100

Chi-square test for the difference in the distributions of types of errors (absolute amount) between foreign subsidiaries and local Chinese firms: χ^2 (d.f.=2) = 50.739*

* Reject the null hypothesis that the distributions of types of errors are the same at the 0.05 level.

Note: Cells with expected value less than 5% were grouped with the next cells for Chi-square test.

(continued)

Table 5. Continued

(c) Inventory

Number of (frequency)	*Foreign Subsidiaries* #	%	*Local Chinese Firms* #	%	*Hong Kong Total* #	%
Cutoff	190	43	54	27	244	38
Pricing & Valuation	55	12	116	58	171	26
Mechanical	13	3	14	7	27	4
Classification	185	41	3	2	188	29
Not identified	6	1	13	6	19	3
Total	449	100	200	100	649	100

Chi-square test for the difference in the distributions of types of errors (frequency) between foreign subsidiaries and local Chinese firms: χ^2 (d.f.=3) = 58.606*

Absolute Error Amount ($000)	*Foreign Subsidiaries* US$	%	*Local Chinese Firms* US$	%	*Hong Kong Total* US$	%
Cutoff	1983	13	3144	44	5127	22
Pricing & Valuation	1565	10	3102	43	4667	20
Mechanical	216	1	350	5	566	3
Classification	12038	75	555	8	12593	54
Not identified	222	1	5	0	227	1
Total	16024	100	7156	100	23180	100

Chi-square test for the difference in the distributions of types of errors (absolute amount) between foreign subsidiaries and local Chinese firms: χ^2 (d.f.=2) = 82.819*

* Reject the null hypothesis that the distributions of types of errors are the same at the 0.05 level.

Note: Cells with expected value less than 5% were grouped with the next cells for Chi-square test.

Plausible explanations for the significant number of classification errors found in Hong Kong may include lower professionalism of accounting personnel and differences in business culture (Gray, 1988; Hofstede, 1991; Chow & Hwang, 1994). Proper classification of assets and liabilities should be facilitated if there is a comprehensive chart of accounts, and/or the accounting personnel who can exercise their professional accounting knowledge to classify the transactions by their nature. In addition, as the classification errors do not have an effect on income, Hong Kong companies tend to pay less attention to these errors. Subsidiaries of multinational companies are usually organized as profit centers to their respective parents, and the performance of these profit centers are normally evaluated on the basis of their income statements (Warren et al., 1996, p.902). The subsidiaries are hence more concerned about errors affecting the profit. Finally, an additional finding that most of the classification errors were recurring further supports the above explanation and suggests that Hong Kong companies rely on auditors to make the adjustments.

Error Rates

Two error rates, the rate of error incidence and tainting, were examined in this study. These two rates are important to auditors in assessing the likelihood of errors and making inference to populations errors (Ham et al., 1985). For instance, rate of error incidence is useful to auditors for estimating the probability of occurrence of error in an account.

Whereas the commonly used estimators like modified moment bounds developed by Dworin and Grimlund (1984) and the simulation ratio estimators developed by Chan (1988, 1996) are based on the knowledge of tainting distributions.

Rate of Error Incidence (R_1)

The definition of rate of error incidence (R_1) is as follows:

$$R_1 = k/n, \tag{1}$$

where k = the number of errors found in an audit; n = the number of items tested in an audit.

Table 6 summarises the rate of error incidence for the three accounting categories.

Ownership Effect

To test the ownership effect on error incidence, Chi-square tests for the distributions of error rates between foreign subsidiaries and local Chinese companies show significant difference at 5% level for all accounting categories. A one-way ANOVA was also performed to test if there is significant difference in mean rate of error incidence between foreign subsidiaries and local companies. The results show marginal significance at 10% level for accounts receivable and accounts payable. Foreign subsidiaries have higher error incidence rate for accounts receivable but lower error incidence rate for accounts payable.

Comparison with U.S. Studies

The findings show that for the Hong Kong data, accounts payable has the highest error incidence rate (26%). Inventory has a higher error rate than accounts receivable (18% v. 14%), which is consistent with U.S. empirical studies (e.g., Neter & Loebbecke, 1975; Ramage et al., 1979; Johnson et al., 1981). Overall, the mean error rates of the Hong Kong sample are lower than Ham et al. for accounts receivable and payable. In particular, a large number of Hong Kong companies had zero error incidence for accounts receivable (60%), accounts payable (45%) and inventory (41%), whereas for Ham et al., zero incidence rate only accounts for 7% to 14% of the distributions. This may be one of the reasons for Hong Kong auditors to use non-statistical sampling as previous research on statistical sampling has shown that when the rate of error incidence is low, most statistical estimators become unreliable (Frost & Tamura, 1982, p.103; Neter & Loebbecke, 1975, Ch. 4).

Consistent with our expectation, foreign subsidiaries have lower error incidence rates for accounts receivable and payable than Ham et al. (1985). This may be due to the stricter compliance with rules and regulations by the Chinese accounting personnel in foreign subsidiaries in Hong Kong.

Tainting (Proportion of Each Dollar Unit in Error, R_2)

As described in Ham et al.'s study, 'A tainting is defined as the error amount of a line item in error divided by the book value of the line item' (Ham et al.1985, p.398). Because

Table 6. Distribution of R_1: Rate of Error Incidence

	Accounts Receivable						Accounts Payable						Inventory					
	Foreign Subsidiaries		Local Chinese Firms		Hong Kong Total		Foreign Subsidiaries		Local Chinese Firms		Hong Kong Total		Foreign Subsidiaries		Local Chinese Firms		Hong Kong Total	
Error Rate	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%
0	54	55	34	69	88	60	34	45	20	43	54	45	25	38	23	45	48	41
.000 to .025	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	1	1
.026 to .050	0	0	0	0	0	0	0	0	0	0	0	0	1	2	2	4	3	3
.051 to .100	4	4	1	2	5	3	2	3	1	2	3	2	5	8	4	8	9	8
.101 to .250	14	14	9	19	23	16	15	20	3	7	18	15	17	26	8	15	25	21
.251 to .500	16	17	2	4	18	12	14	19	11	24	25	21	9	14	5	10	14	12
.501 to .750	9	9	2	4	11	8	4	5	2	4	6	5	4	6	6	12	10	9
>.750	1	1	1	2	2	1	6	8	9	20	15	12	4	6	2	4	6	5
	98	100	49	100	147	100	75	100	46	100	121	100	65	100	51	100	116	100
Mean	0.161		0.096		0.140		0.219		0.318		0.256		0.197		0.167		0.183	
Standard deviation	0.227		0.193		0.218		0.275		0.368		0.316		0.260		0.235		0.248	
Tests	Difference between foreign subsidiaries and local Chinese firms: One-way ANOVA: F=2.988 (d.f.=1)(p=0.086)# Chi-square: χ^2 =10.822* (d.f.=3)						Difference between foreign subsidiaries and local Chinese firms: One-way ANOVA: F=2.877 (d.f.=1) (p=0.093)# Chi-square: χ^2 =10.022* (d.f.=3)						Difference between foreign subsidiaries and local Chinese firms: One-way ANOVA: F=0.4309 (d.f.=1) (p=0.5129)# Chi-square: χ^2 =7.275 (d.f.=5)					

\# Reject the null hypothesis that the mean rates of error incidence are the same at 0.10 level.
* Reject the null hypothesis that the distributions of error incidence in the audit populations are the same at the 0.05 level.
Note: Cells with expected value less than 5% were grouped with the next cells for Chi-square test.

dollar-unit sampling was not used in the samples (as in Ham et al.), for comparative purposes, Ham et al.'s formula was adopted by weighting each tainting by the associated book value as follows:

$$R_2 = \frac{\sum_{i=1}^{k} \langle bv_i - av_i \rangle}{\sum_{i=1}^{k} bv_i} \tag{2}$$

Where

k = the number of errors found in an audit;
n = the number of items tested in an audit;
bv_i = book value of the ith item in an audit;
av_i = audit value of the ith item in an audit.

In order to avoid having undefined tainting, observations which had zero book values were ignored.

Ownership Effect

The Chi-square tests for distributions of taintings between foreign subsidiaries and local Chinese companies indicate significant differences for accounts payable and inventory taintings. The impact of ownership type on mean tainting was further examined by using one-way ANOVA. In order to prevent the netting off of positive and negative taintings which will lead to understating the true mean error rate, absolute taintings were computed. Consistent with the Chi-square tests, significant differences in absolute mean tainting of inventory (at 1% level) were found. Higher absolute mean inventory tainting found in foreign subsidiaries is mainly due to more cutoff and classification errors detected.

Comparison with U.S. Studies

The distributions presented in Table 7 show that the mean taintings of accounts receivable and accounts payable are lower, whereas mean tainting of inventory is higher for the Hong Kong sample as a whole and also for foreign subsidiaries compared with that of Ham et al. (1985). Consistent with the findings in the direction of errors that more overstatement errors were found in accounts payable, the mean tainting of accounts payable is positive. Similar to the prior U.S. studies (Johnson et al., 1981; Neter & Loebbecke, 1975), the overall distributions of taintings are non-normal per the Kolmogorov-Smirnov Goodness-of-Fit tests ($p < 0.01$) for all three accounting categories. The distributions are also characterized by pronounced discontinuities at 100% taintings due to classification and cutoff errors found, particularly so for accounts payable and inventory. The mean inventory tainting of foreign subsidiaries is significantly higher than that of Ham et al. (40% v. 4%) because more 100% taintings were found in foreign subsidiaries in Hong Kong.

Table 7. Distribution of R_2: Taintings

	Accounts Receivable						*Accounts Payable*						*Inventory*					
	Foreign Subsidiaries		*Local Chinese Firms*		*Hong Kong Total*		*Foreign Subsidiaries*		*Local Chinese Firms*		*Hong Kong Total*		*Foreign Subsidiaries*		*Local Chinese Firms*		*Hong Kong Total*	
Error Rate	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%
<-.750	0	0	0	0	0	0	0	0	0	0	0	0	1	3	0	0	1	2
-.200 to -.750	0	0	1	7	1	2	2	5	5	19	7	11	0	0	1	4	1	2
-.050 to -.199	4	9	0	0	4	7	6	15	4	15	10	15	4	11	2	7	6	9
-.000 to -.049	7	16	2	13	9	15	11	28	6	23	17	26	3	8	2	7	5	8
.000 to .049	11	25	4	27	15	25	8	20	3	12	11	17	4	11	12	45	16	25
.050 to .199	7	16	4	27	11	19	8	20	0	0	8	12	5	14	6	22	11	17
.200 to .750	8	18	2	13	10	17	2	5	1	4	3	4	9	25	1	4	10	16
>.750	7	16	2	13	9	15	3	7	7	27	10	15	10	28	3	11	13	21
	44	100	15	100	59	100	40	100	26	100	66	100	36	100	27	100	63	100
Mean	0.237		0.207		0.229		0.108		0.185		0.138		0.404		0.134		0.288	
Absolute mean@	0.256		0.262		0.257		0.195		0.377		0.266		0.484		0.184		0.356	
Std. deviation	0.364		0.385		0.366		0.404		0.529		0.455		0.526		0.331		0.469	
Tests	Difference between foreign subsidiaries and local Chinese firms: One-way ANOVA (for absolute mean): F=0.0033 (d.f.=1) (p=0.9541) Chi-square: χ^2 = 4.568 (d.f.=5)						Difference between foreign subsidiaries and local Chinese firms: One-way ANOVA (for absolute mean): F=3.530 (d.f.=1) (p=0.0648)# Chi-square: χ^2 = 36.866* (d.f.=5)						Difference between foreign subsidiaries and local Chinese firms: One-way ANOVA (for absolute mean): F=8.862 (d.f.=1) (p=0.0042)# Chi-square: χ^2 = 45.464* (d.f.=5)					

@ The purpose of estimating the absolute mean is to prevent the netting off of positive and negative error rates and hence understating the true error rates.
* Reject the null hypothesis that the distribution of taintings in the audit populations are the same at the 0.05 level.
# Reject the null hypothesis that the absolute mean taintings are the same at 0.10 level for accounts payable and at 0.01 level for inventory.
(Note: Cells with expected value less than 5% were grouped with the next cells for Chi-square test.)

Table 8. Summary of Ownership Effects on Error Characteristics: Results of Test of Hypothesis

	Chi-square tests for the differences in distributions of error attributes between foreign subsidiaries and local Chinese companies (Hypotheses were rejected at 5% level of significance)		
Error Characteristics	*Accounts Receivable*	*Accounts Payable*	*Inventory*
Direction of Errors			
—including classification error		significant	significant
—excluding classification error		significant	
Magnitude of Errors			
—distributions of the relative magnitude of mean errors	significant		significant
Variability of Errors			
—distributions of the relative degree of variability		significant	
Types of Errors			
—distribution of frequency	significant	significant	significant
—distribution of absolute amount	significant	significant	significant
Error Rates			
—distribution of rate of error incidence	significant	significant	
—mean rate of error incidence	significant*	significant*	
—distribution of taintings		significant	significant
—mean absolute tainting		significant*	significant

Note: Ownership effect Hypothesis:

H_0: There are no significant differences between foreign subsidiaries and local Chinese companies in Hong Kong.

* Hypothesis was rejected at 10% level of significance.

SUMMARY OF RESULTS AND DISCUSSIONS

This study provides some exploratory evidence on the impacts of ownership structure on audit-detected error characteristics. Results of test of hypothesis as summarised in Table 8 indicate that the error characteristics of Hong Kong's foreign subsidiaries, differ significantly from local Chinese companies. Differences in internal control system, nature of transactions and organizational culture lead to great variations in the error characteristics of foreign subsidiaries from those of local Chinese companies. The implication of these results is that when studying error patterns for other emerging economies, these ownership effects should be carefully considered.

Table 9 provides a summary of significant differences in the directions, types, frequency and tainting distributions of errors among foreign subsidiaries, local Chinese companies, Ham et al. and other U.S. studies. Some of the important findings are:

1. The direction of errors in accounts payable differs significantly between different ownership type of companies (foreign subsidiaries vs. local Chinese companies). Accounts payable in local Chinese companies tends to be overstated, while results in foreign subsidiaries are consistent with the U.S. studies and are mostly understatement errors. Most of the overstatement errors in local Chinese companies are due to lack of adequate internal control system to take into account the unique business practice of Chinese (P.R.C.) companies which require prepayments for purchases.

Table 9. Summary and Comparison of Results

Error Characteristics	*Hong Kong*	*Ham et al. (1985)*	*Other U.S. Results (e.g., Johnson et al. 1981)*
1. Direction of Errors			
—accounts receivable	overstatement	overstatement	overstatement
—accounts payable	overall, evenly spread between understatement and overstatement. In particular, local Chinese companies tend to overstate.	understatement	understatement
—inventory	overstatement	overstatement	overstatement
2. Magnitude of Errors			
—accounts receivable	smallest	largest	Accounts receivable errors are larger than inventory errors
—accounts payable	largest	moderate	
—inventory	moderate	smallest	
3. Variability of Errors			
—accounts receivable	smallest	smallest	} vary greatly
—accounts payable	moderate	moderate	
—inventory	largest	largest	
4. Type of Errors			
—accounts receivable	Cutoff errors are the largest in terms of absolute amounts and second large in terms of frequency. Foreign subsidiaries have more cutoff than local Chinese companies. Significant "not identified" errors (37%) resulted from unreconciled differences found.	Cutoff errors are the largest in terms of number and absolute amounts	Large monetary errors are concentrated in accounts receivable, inventory and accounts payable. Major causes of errors found in most studies include cutoff and mechanical errors.
—accounts payable	Mechanical errors are the largest and represent 28% in terms of frequency, majority found in local Chinese companies. Fewer cutoff errors found in local Chinese companies.	Mainly cutoff errors (over 60% in number), mechanical errors are minimal (5%)	
—inventory	Cutoff, pricing & valuation represents the majority. Local Chinese companies have more pricing & valuation errors.	Cutoff, pricing & valuation represents the majority.	
*for all three accounts	* Significant no. of classification errors found.	* minimal classification errors	

5. Rate of Error Incidence (R_1)			
—accounts receivable	Lowest	Moderate	Inventory has higher error rate than accounts receivable.
—accounts payable	Highest	Highest	
—inventory	Moderate	Lowest	
6. Tainting (R_2)			
—accounts receivable	Taintings are likely to be overstatement and are lower than inventory taintings.	Taintings are likely to be overstatement and are higher than inventory taintings.	Similar to Ham et al.'s results
—accounts payable	Taintings are fairly balanced between over-statement and understatement.	Mean tainting being understatement.	Not investigate d
—inventory	Likely to have overstatement tainting in inventory.	Taintings are fairly balanced between over-statement and understatement with mean tainting being overstatement.	Inventory taintings tend to be skewed negatively.
* for all three accounts	* 100% taintings are frequently present.	* Accounts receivable has the largest number of 100% taintings. Other 100% taintings are not frequently present.	* A large number of 100% taintings present, particularly for accounts receivable.
7. Ownership effect on error rates (foreign subsidiaries v. local Chinese companies)			
—accounts receivable	Significant difference found in mean rate of error incidence. Higher rate found in foreign subsidiaries.	Not investigated	Not investigated
—accounts payable	Significant differences found in mean rate of error incidence and mean absolute taintings. Foreign subsidiaries have lower mean error incidence and mean tainting.	Not investigated	Not investigated
—inventory	Significant difference found in mean absolute taintings. Foreign subsidiaries have higher mean absolute tainting.	Not investigated	Not investigated

2. More and larger mechanical errors as well as inventory pricing and valuation errors are found in local Chinese companies because of the differences in the form of relationship with suppliers and weaker internal control system. On the whole, more cutoff errors are found for foreign subsidiaries due to more extensive involvement in international trade.
3. Foreign subsidiaries tend to have higher mean rate of error incidence for accounts receivable and higher mean absolute tainting for inventory. However, the mean rates of error incidence and mean absolute tainting for accounts payable tend to be lower than local Chinese companies.
4. A large number of "Not identified" type of errors found in the Hong Kong sample is mainly attributable to the perceived immateriality of the unreconciled differences between book values and the confirmed balances from customers. This indicates that differences in the perception of the accounting concept of materiality may affect the errors detected by auditors. No prior studies on this type of errors is available for comparison and further research on this area is warranted. Also, classification errors in the Hong Kong sample are significantly larger and more frequent than that in the U.S. studies and this type of error is recurring. Though this type of error does not affect the income statement, it would affect the "true and fair view" of the balance sheet.

Knowledge of specific error characteristics in different audit environments should help auditors and researchers modify relevant audit procedures or techniques by taking into account the differences identified, so as to increase the effectiveness and efficiency of local audits. For example, auditors should pay special attentions to detect overstatements in accounts payable for transactions with Chinese (P.R.C.) suppliers instead of focusing on detecting unrecorded liabilities. Hong Kong auditors should put more emphasis on detecting cutoff and classification errors in addition to testing pricing and mechanical errors of transactions and account balances. The differences in the error characteristics found in Hong Kong and their underlying reasons should have implications for auditors in designing audit sampling plans and choosing appropriate error estimators for non-U.S. accounting populations. As the performance of certain error estimators is affected by the error distribution of the accounting population, those estimators developed based on U.S. data may be unreliable for estimating errors in accounting populations in non-U.S. jurisdictions. Finally, information about the likely causes and location of errors in non-U.S. accounting populations should also alert management of multinational corporations to incorporate the potential differences in error patterns in designing and implementing effective accounting controls for subsidiaries outside the U.S. For instance, our data reveal that management of corporations should devote more efforts on providing specific guidelines such as an adequate chart of accounts to ensure proper classification of transactions and balances. Effective information system will help management make better decisions.

Generalization of the above results may be limited to the extent that data were based on the clients of a single international accounting firm. This approach may have understated the differences in the effects of ownership that would have been possible had the audit files been selected from more than one accounting firm in Hong Kong. However, in order to control for the likely confounding effect of the differences in the audit client portfolios of different accounting firms and the differences in audit procedures, it is better to use audit data from a single accounting firm. More importantly, the mixture of foreign subsidiaries and local firms in Hong Kong, each playing a significant role in the local economy, is typical of the business environment in emerging economies. Thus, the focus of this study is to compare the differences in error patterns between different ownership companies (local Chinese companies vs. foreign subsidiaries) in Hong Kong. Separating the firms in Hong Kong into local Chinese companies and foreign subsidiaries should not necessarily lead to a cross country comparison since foreign firms often have organizational cultures that are different from those in their home countries as soon as they transplant into host countries (Chow & Hwang, 1995).

The new approach of data collection by direct assessment of audit working papers allows us to evaluate the underlying reasons for the causes of different errors and provide more reliable results. Therefore, the empirical results provided in this study should help enhance our understanding of the impact of organizational culture and business practices on error characteristics in other emerging economies. Further research should be devoted to developing an empirical error characteristics database for accounting populations in other emerging economies such as the P.R.C. because of the increasing economic importance in world trade and its unique business culture. The findings of such studies should have implications for the development of the global audit market. Audit technologies which are effective in one national setting can be ineffective or even dysfunctional in another (Chow & Hwang, 1994). It is important to understand the error patterns of different ownership firms as well as the differences between the U.S. and non-U.S. audit populations so as to provide guidance to auditors as to when and how audit technologies can be effectively transferred to non-U.S. jurisdictions.

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The International
Journal of
Accounting

Differential Reporting in Singapore and Australia: A Small Business Managers' Perspective

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Key Words: International accounting, Culture, Differential reporting, Financial accounting

Abstract: *This study examines societal values on two key issues of differential reporting, the preferred level of disclosure and perceived balance of costs relative to benefits of compliance. A theoretical framework developed by Gray (1988) is utilised, linking Hofstede's (1980) societal values to issues in differential reporting and the accounting subcultural value of secrecy.*

Interactive multiple regression analysis is used to ascertain the effect of power distance, uncertainty avoidance and individualism on the perceptions of the survey groups towards issues of differential reporting. Findings from this study indicated that the perceptions of small business managers in Singapore and Australia were consistent with prior literature. Uncertainty avoidance and to some extent power distance were found to have a significant effect on small business managers perceptions. This study indicates that the current association between societal values, accounting subcultural dimensions and accounting practice as depicted by Gray (1988) may have to be rearranged.

This paper reports the results of empirical tests that assess the significance of cultural influence on small business managers attitudes toward accounting disclosure requirements in an international context. Prior research suggests that cultural differences may help to explain international differences in accounting systems and patterns of international accounting development (Perera, 1989; Belkaoui & Picur, 1991). Specifically, the paper examines the cultural impact on small business manager perceptions about two key issues in differential reporting.

1. the perceived level of cost and benefits associated with small business financial statements accounting disclosures; and
2. the degree of support for differential accounting disclosure requirements.

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The International Journal of Accounting, Vol. 33, No. 2, pp. 263-268 **ISSN: 0020-7063.**

Section two reviews the links between culture and accounting disclosure leading to the development of the hypotheses. In section three the research methodology is then explained. Results of the tests are described and their significance discussed in sections four and five.

CULTURE AND ACCOUNTING VALUES

The notion of differential reporting suggests that certain reporting entities may be exempted from the application of specific accounting standards because of their size, legal structure, ownership and/or the presence of a dependent user (Nair & Rittenberg, 1983; McCahey & Ramsay, 1989). International studies have generally concluded that small business managers perceive the costs of complying with accounting standards to be greater than the benefits. This is due to their perception that there are a limited number of users requiring such data and that compliance with accounting standards may disclose strategic information to competitors (Nair & Rittenberg, 1983; Carsberg, Page, Sindall & Waring, 1985). FASB (1983) and others have concluded there is a need to exempt small business entities from full compliance with promulgated accounting standards. The research to date, has been limited primarily to Anglo-American nations and has therefore ignored cultural influences relevant to disclosure perceptions.

Culture is operationalised in this study in line with Hofstede (1980, p. 26) who defined this concept as "the collective programming of the mind which distinguishes the members of one human group from another". Gray (1988) argued that the seminal work of Hofstede (1980) provided insights about the evolution of accounting systems. As noted by Perera and Mathews' (1990, p. 230) "the extent of disclosure in financial reports would seem to differ between countries in line with differences in the value orientations of the preparers of these reports." Gray (1988) linked Hofstede's (1980) four societal value dimensions (uncertainty avoidance, power distance, individualism and masculinity) to four accounting value dimensions (professionalism versus statutory control; uniformity versus flexibility; conservatism versus optimism; and secrecy versus transparency).

The accounting sub-cultural value of greatest importance to this study is the secrecy/transparency dimension. Gray (1988, p. 8) indicates that this dimension is a "preference for confidentiality and the restriction of disclosure of information about the business only to those who are closely involved with its management and financing as opposed to a more transparent, open and publicly accountable approach." Secrecy, Gray (1988) argued, can be most closely linked with the uncertainty avoidance, power distance and individualism dimensions. A preference for secrecy was thought to be consistent with a high level of uncertainty avoidance following from a need to restrict information disclosure so as to avoid possible conflicts, limit the uncertainties of competition and preserve security. Power distance is another potentially influential value as it deals with the restriction of information to preserve power inequalities. A preference for collectivism rather than individualism is also likely to be consistent with secrecy as it reflects more concern for the interests of the group most closely and directly involved with the management and financing of the firm than with a wide range of external parties including potential investors and the public at large. Another dimension, long versus short term orientation, is added to this analysis (Hofstede & Bond, 1988). In line with the work of Eddie (1996), it is suggested that the value of long term orientation is associated with secrecy because of a tendency to preserve relationships, thrift and long range goals.

It is felt that the degree of secrecy will tend to vary across countries with resulting differences in the amount of information disclosed. Based on the above, the following null hypotheses are formed in regard to culture and respondent's view of differential reporting. Two respondent perception variables are considered: Preferred level of Disclosure (PLD); and Perceived Extent of Costs Versus Benefits (PECVB) related to disclosure.

H1: Singapore and Australian small business managers will not differ significantly due to cultural values with respect to PLD.

H2: Singapore and Australian small business managers will not differ significantly due to cultural values with respect to PECVB.

It is hypothesized that the higher a country ranks in terms of uncertainty avoidance, collectivism feminity and power distance and long term orientation the more likely it is to be highly ranked in terms of secrecy.

RESEARCH METHODOLOGY

Because corporate size is related to disclosure requirements, corporation size have been used in prior research. Our interest in small business manager leads us to adopt following entity's size criteria:

1. fixed production costs should not exceed $8 million;
2. employee numbers should be greater than 10 but less then 100; and
3. annual turnover should not exceed $15 million.

These criteria were applied based on the qualification requirements in Singapore and Australia for membership as a small or medium sized business (Singapore Small and Medium Sized Business Association, 1993; Australian Small Business Association, 1993).

The small business managers views were measured as to their perception of the Preferred Level of Disclosure (PLD) and the Perceived Extent of Costs Versus Benefits (PECVB) related to disclosure. The PLD is defined as the level of information a small business manager believes should be disclosed in the company's reports. The PECVB is a measure of the perceived costs and benefits to a small business manager upon expanded requirements to disclose information. The measures for both PLD and PECVB are related to the subcultural value of secrecy versus transparency. Secrecy can be interpreted to be similar to a low PLD and high PECVD. Thus in a country where secrecy is preferred small business managers will prefer a low level of disclosure. They will also perceive that the costs relative to benefits are outweighted if additional disclosure is required.

The two dependent variables, PLD and PECVD, were measured using a range of item statements drawn from prior differential reporting literature. A copy of the questionnaire can be demanded from the author. All questions were scored on a seven point Likert scale. All scores for the statements related to the respective dependent variable were then added for each respondent and divided by the number of statements to arrive at a final mean score for each dependent variable.

Table 1 Small Business Managers Cultural Scores

Cultural Dimension	*Calculated Score for Small Business Managers*	*Hofstede's (1980) and Bond's (1988) Scores*
Individualism		
Singapore	20	8
Australia	57	51
Power Distance		
Singapore	81	74
Australia	45	36
Uncertainty Avoidance		
Singapore	41	20
Australia	67	90
Masculinity		
Singapore	55	48
Australia	63	61
Long-term Orientation		
Singapore	38	47
Australia	26	31

RESULTS

An overall useable response rate of 57.75% was obtained from the four hundred questionnaire packages sent. Reliability of the instrument was measured across and within both groups using the alpha coefficient. The alpha coefficient across all subjects was 0.8934 indicating that the treatment variables captured the desired construct independence. The coefficient for Singapore and Australia approached the magnitude for the overall alpha. Hence it is concluded that the research instrument was deemed to be reliable in both nations. Using the same techniques as Hofstede (1980), cultural scores for each societal dimension was recalculated using the data collected from this study. Table 1 illustrates that these results are similar to Hofstede's original results and other related studies (for example Harrison, 1993).

Interactive univariate linear regressions were undertaken between each societal variable with respect to each nation (Table 2). From this table it can be seen that the signs of the slope coefficients are as expected in all cases for both dependent variables. The PLD and PECVD is positively correlated with individualism and masculinity and negatively correlated with uncertainty avoidance, power distance and long-term orientation. Further, the statistics for uncertainty avoidance are significant at the 1% level, the 5% level for power distance and 10% level for individualism. In the case of masculinity and long-term orientation the statistics are not significant.

A further set of multiple linear regressions were undertaken using a stepwise procedure. Findings from this procedure were consistent with the univariate linear regression analysis. The models to explain the PLD and PECVB were found to be ones containing only uncertainty avoidance and power distance. In both models, each independent variable was significant at the 10% level. The inclusion of individualism these models did not significantly improve performance, while including masculinity and long-term orientation resulting in deteriorations in performance.

Table 2. Interactive Multiple Regression Analysis

	Individualism	*Power Distance*	*Uncertainty Avoidance*	*Masculinity*	*Long-Term Orientation*
PLD					
Regression Co-efficient	-0.080156	-0.906456	1.075399	-0.216698	-0.104319
Value of *t*-statistic	-0.3666	-1.707	2.673	-0.837	-0.317
Probability	0.7146	0.0892**	0.0081*	0.4043	0.7516
PECVB					
Regression Co-efficient	-0.202483	-0.257413	0.738674	-0.139753	-0.145871
Value of *t*-statistic	-1.178	-1.121	2.371	-0.282	-1.056
Probability	0.2402	0.2633	0.0198**	0.779	0.2978

Notes: * = Significant at the 95% significance level;
** = Significant at the 90% significance level.

DISCUSSION

The empirical results supports the rejection of both hypotheses. This supports the perception that culture is a significant factor influencing the PLD and PECVB of small business managers in Singapore and Australia. However the proposed explanatory models are only partially supported. The societal values most significantly related to the two differential reporting issues differential reporting are uncertainty avoidance and power distance.

This study suggests that the differences in disclosure preferences of small business entities are, in part, culturally based. Hence, there may be differential resistance by small company managers to accept international standards requiring more disclosure requirements than existing domestic standards.

An interesting alternative explanation for the lack of support for the influence of individualism, masculinity and long-term orientation, arises from the work of Fechner and Kilgore (1994). They felt that cultural factors are more likely to be moderating rather than an intervening factors. Therefore the results of this study may not be registering the direct influence of the respective societal values on perceptions related to differential reporting, but rather their residual influence in moderating the relationship between secrecy and the views of small business managers.

Further empirical research needs to be conducted, involving a larger number of countries to examine the strength of the respective relationships. Additional studies incorporating the perceptions of lenders, practitioners and large business managers could also provide valuable insights. Longitudinal research could be of benefit in examining the influence of such factors as generational and cyclical effects.

Acknowledgments: The authors wish to acknowledge the constructive comments of Bob Armstrong, Mike Bazley, Ian Eddie, Cecil Pearson, Hector Perera, Malcolm Smith, Hume Winzar, an anonymous reviewer and participants of research seminars at Murdoch University, the International Accounting Group seminar (AAANZ) 1994, AAANZ Annual Conference 1995 and Eighth Asia-Pacific Conference on International Accounting Issues 1996 in earlier drafts of this paper. The authors wish to further express their gratitude to Coopers and Lybrand for their assistance in funding of this project.

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The International Journal of Accounting

Colonialism and Accounting Education in Developing Countries: The Experiences of Singapore and Sri Lanka

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Key Words: Accounting education and practice, Accounting profession, Professional accounting bodies, Colonial system, Accounting in developing countries.

Abstract: *This paper provides a comparative analysis of the nature of accounting education in Singapore and Sri Lanka. Both these countries were British colonies for nearly one hundred and fifty years and inherited their accounting education systems from the British. After fifty years of independence, Sri Lanka is still following the colonial system to produce its accountants. Singapore, however, moved away from the colonial system within four years of independence. This paper indicates that if a developing country continues to depend heavily on foreign education programs and accounting bodies to produce accountants locally, the consequences can be less than desireable.*

Almost all developing countries that were British colonies for a considerable length of time inherited the British accounting education system (Briston, 1978; Hove, 1986). During the early years of the colonial period, most of the sizable businesses in these countries were set up by British investors. The managerial personnel, including accountants, for these enterprises were generally brought from the UK. At that time a person could obtain the status of professional accountant only by admission to one of the British professional accounting bodies. Only the small number of local people who could bear the cost of education and training abroad proceeded to England to obtain professional qualifications. Some British accounting bodies set up examination centers in a few major cities in developing countries allowing local people to obtain British professional accounting qualifications while working in their own countries (Johnson & Caygill, 1971). A considerable number of local accounting students fulfilled the examination and practical training requirements of these professional bodies and became British qualified accountants. They occupied dominant

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The International Journal of Accounting, Vol. 33, No. 2, pp. 269-281 **ISSN: 0020-7063.**

positions in the accounting profession in these countries, particularly after gaining independence. Some continue to act as consultants and advisers to their respective governments on accounting related matters.

The experiences of many previously British colonies is that a small nucleus of British qualified accountants created a monopolistic and elite professional body that is virtually a carbon copy of the Institute of Chartered Accountants of England and Wales. These professional bodies have similar examination and training structures and an identical emphasis upon auditing as the British counterparts (Briston, 1978). Accordingly, despite the existence of a local professional accounting body and good quality universities and technical colleges, many of these developing countries, even after gaining independence, continued to follow the same colonial system to produce accountants (Perera, 1975; Ghartey, 1978; Briston, 1978; Wallace, 1990). Moreover, in some countries the local professional body appears to exert control over the supply of accountants by limiting the membership only to those who complete its own examinations. These measures allow them to maintain the "status" of their members. According to Briston (1978: 108), the group of British qualified accountants who hold key positions in the local profession have a vested interest in perpetuating the accounting education system they followed, partly because of the high rewards it provides and partly because they are not prepared to admit that the system may no longer be relevant or adequate. However, several countries, previously under British rule, have moved away from the colonial system of accounting education by making use of their universities and technical colleges to produce competent accountants in sufficient numbers for their local organizations (Osieghu, 1987; Moores & MacGregor, 1992; Tan et al., 1994; Linn, 1996).

Singapore and Sri Lanka were British colonies for nearly one hundred and fifty years. Both these countries inherited their accounting education and practice almost entirely from the British system. Consequently, at the initial stage of their development, the accounting education systems of Singapore and Sri Lanka were very similar. The current state of accounting education in these two countries is, however, significantly different. Compared with Sri Lanka, Singapore appears to have made greater progress in the field of education and training of accountants. Singapore within four years of attaining independence adopted an effective system for producing its accountants locally (Fong & Foo, 1992; Wee, 1994; Tan, et al., 1994). Sri Lanka, after fifty years of independence, is still following the old colonial system to educate accountants. Singapore, economically inferior to Sri Lanka during the early years of post-independence has achieved a remarkably higher economic development in recent decades and has emerged as one of the newly industrialised countries (NIC). In 1995, Singapore recorded a per capita income of 22,500 US dollars, second only to Japan in the entire Asian region, whereas per capita income was only 640 US dollars in Sri Lanka (World Bank, 1996). It has been reported that Singapore's accounting education and practices contributed significantly to its economic success (Foo, et al., 1993; Tan, et al., 1994). Singapore and Sri Lanka are an interesting case study of the historical development of accounting education and economic development in two countries. We hope to gain insights into: (1) why one country is still following the old colonial system while the other has shifted away from it; and, (2) how these events may have effected the respective economies.

ACCOUNTING EDUCATION IN SINGAPORE

Historically, except for the brief Japanese occupation in the 1940s, Singapore was a British colony for nearly one and a half centuries gaining independence in 1959. Consequently, its general education from primary to university level was inherited from the British education system and accounting education was no exception. The British system of accounting education was imposed on Singapore during the colonial period in a number of ways: (1) the export of British accounting personnel to Singapore; (2) the export of British accounting qualifications; (3) the establishment of British professional accounting bodies' examination centers in Singapore; (4) the involvement of British experts in the planning, directing, organising, teaching and providing assistance in the development of academic institutions in Singapore; and (5) the general British influence upon the business, education and administrative environments in the early days of Singapore (Foo, 1988).

Prior to 1956, Singapore did not have a program of studies leading to a local qualification in accounting. A foreign professional accounting qualification was the only avenue through which a person could expect an accounting job, particularly a job in the public sector. The only accounting qualifications available were obtained by examinations conducted by overseas professional accounting bodies, such as the Association of Certified Corporate Accountants of the United Kingdom (ACCA), the Institute of Cost and Works Accountants of the United Kingdom (ICWA), and the Australian Society of Accountants (ASA).

The first local accounting program leading to a Bachelor of Commerce with specialisation in accounting was launched by the Nanyang University in 1956. In the following year, the Department of Commerce at the Singapore Polytechnic was established to offer, among other courses, a full-time course leading to the College Diploma in Accounting (Fong & Foo, 1992). In 1958, the Department of Commerce at the Singapore Polytechnic was replaced by the Department of Accountancy with the objective of offering both full-time and part-time courses leading to a Professional Diploma in Accounting (Tan et al., 1994). Soon after gaining political independence, the authorities of Singapore realised the importance of producing accountants through their own higher educational institutions without depending on foreign accounting bodies and what was perceived to be out-dated education systems. Consequently, the professional accounting diploma awarded by the Singapore Polytechnic was recognised in 1963 as an adequate qualification for admission to provisional membership of the Singapore Society of Accountants (SSA). The SSA was the local professional accounting body established by the government for the purpose of registering professional accountants and regulating the practice of the profession of accountancy in Singapore. During the 1965-66 academic year, the Department of Accountancy at the Singapore Polytechnic was renamed the School of Accountancy and the accountancy program was upgraded from a diploma to a university degree signifying the transformation of the polytechnic to a university college. As a result of negotiations between the college and the University of Singapore, the latter agreed to award its accounting degree to students of the Singapore Polytechnic. In 1969, the amalgamation of the School of Accountancy with the Department of Business Administration of the University of Singapore represented another milestone in the historical development of an independent accounting education system in Singapore (Sunday Times, 1968). At the time of the merger, the School of Accountancy was relocated to the University of Singapore campus. As a further development in 1971, the Bachelor of Commerce (Accountancy) program offered by Nanyang University since

1956 also received its professional recognition, subject to practical training, from the Singapore Society of Accountants. In 1978, joint courses in accounting were introduced by the Nanyang University and the University of Singapore. The two schools of accountancy merged in 1980 to form the School of Accountancy at the National University of Singapore.

After the reorganization of the Singaporean university system through the formation of the National University of Singapore and the Nanyang Technological Institute, the country's accounting education system achieved its highest growth rate. The School of Accountancy of the National University of Singapore was physically relocated at the Nanyang Technological Institute in 1987 and the School of Accountancy was renamed the School of Accountancy and Business in 1990. In 1991, the Nanyang Technological Institute became a full-fledged university and is now named the Nanyang Technological University (NTU). The School of Accountancy and Business of this university has gained a reputation today as the leading centre for undergraduate and postgraduate accounting education in Southeast Asia. The Bachelor of Accounting degree awarded by the Nanyang Technological University is based on a 3-year full-time program of study. In addition to its Bachelor of Accountancy degree program, it also offers a professional postgraduate program leading to a Master of Business Administration in Accounting. Both these accounting degrees are recognised by the Institute of Certified Public Accountants of Singapore (ICPAS) for admission to its membership, subject to approved practical experience. The Bachelor of Accountancy program of NTU, at its various stages of development, has produced nearly 10, 000 accounting graduates. By the end of 1992, 7442 of these graduates had become professional accountants by obtaining the ICPAS membership. In addition to the undergraduate degree, the School of Accountancy and Business at NTU also offers two postgraduate research degrees leading to the Master of Accountancy (M.Acc) and the Doctor of Philosophy (PhD) in Accounting (Wee, 1994).

Since its inception, the Singapore professional accounting body, [initially as the Singapore Society of Accountants (SSA) in 1963 and later as the Institute of Certified Public Accountants of Singapore (ICPAS) in 1987], has maintained a close relationship with the university's School of Accountancy. This liaison is evidenced by the fact that the Institute was consulted at each stage of the transition of the School from the Singapore Polytechnic to the present Nanyang Technological University. A representative of the School of Accountancy and Business is appointed by the Minister of Finance as a statutory member of the Council of the ICPAS. Through various committees, the School of Accountancy and Business also maintains close rapport with the professional accounting body, business community and other professional organizations to ensure the continuing relevance of its degree programs (Tan, et al., 1994).

ACCOUNTING EDUCATION IN SRI LANKA

During the colonial period, business activity in Sri Lanka was directed toward the plantation sector introduced to the economy by the British (Ramanathan, 1952). In order to facilitate the investment of British capital, plantation joint stock companies were introduced in the middle of the nineteenth century. Initially, these companies were owned by British investors and required management and accounting personnel came from the U.K. Even though these firms were actually located in Sri Lanka, they were managed as if they were in Britain. No attempt was made to develop an accounting system suitable to local conditions (Perera, 1975). Local people were trained by British accountants to the British system and employed in operating the British firms. Until about 1925 there were no professionally qualified accountants in the government service. An exception was the Government Railway, where a few professionally qualified accountants were recruited from England, apparently for the purpose of training accounting personnel for the Railway (Report of the Special Committee Appointed to Investigate into the Structure of the Accounting Service, 1949).

Beginning around 1890 a few private educational institutions conducted classes in commercial subjects, including accounting, mainly for students preparing for the British external examinations held in Sri Lanka. The most popular of these were the examinations leading to the London Chamber of Commerce certificates and the Cambridge certificates with the first certificates dating back to 1891 (De Silva, 1969). However, no program of study leading to a local qualification in accounting was conducted by any organization until 1943. Even though the Ceylon[1] Technical College at Maradana was set up by the colonial government in 1893, accounting education was not given a place in its programs for another fifty years. Only after 1942 did the Ceylon Technical College take steps to organise and offer certificate and diploma courses in accounting. Accordingly, a commercial certificate course for bookkeepers and a diploma course for prospective accountants were launched by the Technical College in 1943 and 1946 respectively. These courses were modelled on similar programs of studies offered in the U.K. Since the Diploma in Accountancy was a four-year evening course offered at the professional level the admission to the course was restricted to those who were engaged in accounting related activities. The curriculum of this course was quite similar to those of the leading professional accounting bodies in the U.K.

During 1941-1959, the only authoritative body of accountancy existing in Sri Lanka was the Accountancy Board established by the government to prescribe regulations and conduct examinations for selecting suitable candidates for the accountancy service (Report of the Commission of Inquiry on Technical Education, 1963). Those who were selected by the Accountancy Board through its examinations were called Ceylon Registered Accountants. The examinations conducted by this body were based on similar examinations of the British professional accounting bodies. The Accountancy Board also organised classes for prospective accountants in collaboration with a few private academies. A number of private academies conducted classes for accounting students who independently prepared for the external examinations of British professional accounting bodies, for the first time in Colombo in 1920 (Johnson & Caygill, 1971). There was no local professional body of accountants in Sri Lanka even by the late 1950s, thus, prospective accountants in Sri Lanka depended on the professional bodies in the U.K. for their professional qualifications. The most prominent of these professional bodies were the Institute of Chartered Accountants in England and Wales, the Institute of Incorporated Accountants, the Association of Certified Corporate Accountants, and the Institute of Cost and Works Accountants. Among them, the first two required the candidates to be articled under practising accountants, whereas the last two did not have such a requirement. All prospective chartered accountants were required to go to the U.K. to be articled for five years, whereas it was possible for the Incorporated Accountants to be articled in Sri Lanka for four years and two months before going to England to take their examinations. The membership of the other two professional bodies was open to those engaged in accounting activities and it was obtainable locally by completing the examinations and satisfying the conditions as to the candidate's experience and character. Primarily based on the knowledge acquired through the Diploma in Accountancy course conducted at the Ceylon Technical College, a considerable number of accounting students completed the examinations of the above professional bodies and became British qualified professional accountants. Over the past three decades, in addition to the accounting courses offered by the premier technical college at Maradana, similar courses were conducted by most of the regional technical colleges.

The Institute of Chartered Accountants of Sri Lanka (ICASL) replaced the Accountancy Board in December 1959 under the provisions of the Act of Parliament No. 23 of 1959. Since that time it has functioned as the only local professional body of accountants in Sri Lanka. From its inception, the ICASL was the main local center of accounting education and training in the country. It provided the opportunity for prospective accountants to become qualified as Chartered Accountants within the country. However, apart from the fact that chartered accountants could be produced locally, the method of education and training used for producing such accountants continued to be the same as that of the Institute of Chartered Accountants of England and Wales. Following the British model, the ICASL also introduced its own examinations and only those who passed those examinations and successfully completed a five-year period of practical training as articled clerks under the supervision of chartered accountants (called principals) were admitted to the membership of the Institute as 'Chartered Accountants'.

The ICASL has also been engaged in providing a study program to its registered students for enabling them to prepare for the intermediate (Licentiate) and final (Professional) examinations. Both formal education and on-the-job training adopted by the ICASL stressed conformance with the requirements of the Companies Ordinance which was modelled on the British Companies Act of 1929. Consequently, a heavy emphasis was placed on the legal and auditing aspects of accounting with an emphasis on the technical or mechanical aspects of accounting (Perera, 1975). Referring to the situation in Sri Lanka, Perera commented that,

> Practically trained accountants tend to eliminate from serious consideration all abstract and abstruse concepts of accounting, possibly because such complexities are not well received or understood by them. They are inclined to view accounting education with a more narrow perspective, and those who are trained under them will have the same attitude (1975: 94).

Until recently, the system of 'articles' played a major role in the whole program of education and training provided by the ICASL. Under the terms of this training scheme, the principal was expected to allow study-time and provide on-the-job training for the trainee called 'articled clerk'. Since this system was adopted from the U.K. it was generally assumed that training under articles was adequate for local requirements, even without any monitoring of the type of training received by an articled clerk. However, experience indicated that articled clerks were often used for mechanical and routine work that could be handled by bookkeepers or others of more limited capacity. They were seldom given challenging work or real responsibility (Perera, 1975). Furthermore, in 1973, the Report of the

Committee on the Future Training of Accountants in Sri Lanka pointed out that the system of accounting education and training based almost exactly upon that of the British chartered accountant was inadequate for the country's needs and proposed instead a much more flexible and relevant system (Accountant, 1973; Manoharan, 1974). In response to the recommendations of this committee, the ICASL changed the name of its training scheme from 'articles' to 'practical training' and reduced the duration of training from 5 to 3 years for university graduates and 4 years for non-graduates. It is interesting to note that this reduction in the duration of practical training was nothing more than directly following the same change that had been introduced previously by the Institute of Chartered Accountants of England and Wales (ICAEW, 1997). As a response to the comments made by the above committee, the ICASL also introduced a new examination structure. However, according to Briston (1978), the new structure was "a rehash of traditional accounting subjects rather than a fundamental reassessment of the subjects in which a qualified accountant should be skilled". Referring to these changes, Briston further noted that,

> The disappointing remedy prescribed in Sri Lanka following such a foresighted analysis of the disease is largely attributable to deep-seated British influence exercised directly through underlying commercial attitudes and through the cadre of U.K. qualified professional accountants in that country (1978: 115).

As such, the type of education and training received by prospective accountants in Sri Lanka has remained practically the same from the inception of the ICASL. The total number of chartered accountants produced by the ICASL during the 36-year period from 1959 to 1995 amounted to only 1,680 (The Chartered Accountant, 1995). The examination failure rate is extremely high. Consequently, many school leavers have depended on foreign professional bodies to acquire professional qualifications.

Although the Sri Lankan university system was established in 1942, it did not include commerce as a separate discipline until the beginning of 1960. The Vidyodaya University pioneered in this area by launching two bachelor's degree programs in Business Administration and Public Administration at the general and honours levels. Both programs included a considerable number of accounting subjects. The Bachelor of Arts (Economics) program of this university also provided a specialisation in accountancy. In 1961, the University of Ceylon (Peradeniya) introduced a program of study leading to the Bachelor of Commerce degree. This program included a number of accounting subjects. When the universities in Sri Lanka were reorganised in 1972, all the universities came under central administration and consequently each university became a campus of the University of Sri Lanka. One of the significant developments of this reorganization was the rapid expansion of commerce education in the university system. For example, in addition to the Business and Public Administration degree programs, a new Bachelor of Commerce degree program with an emphasis on accounting subjects was introduced at the Vidyodaya Campus in 1973. Similar programs were started in other university campuses in Kelaniya, Colombo, Ruhuna and Jaffna. These campuses were renamed as separate independent universities in 1977. Although the accounting subjects were offered as a major component of undergraduate degree programs in commerce and management, a comprehensive accounting degree program was not offered by any university in Sri Lanka until 1992.

A separate academic department for accounting was set up for the first time and a comprehensive bachelor's degree program in accounting was started at the University of Sri Jayewardenepura in 1992. This four-year program of study is designed to cover the theoretical and practical aspects of accounting required for a high-quality academic and professional degree in accounting. Another important feature of this program is its practical training scheme. Under this scheme, every undergraduate student is required to complete a 60-week program of practical training in a selected organization. This is a compulsory requirement satisfied in the third and fourth years of the student's program of study. However, this accounting degree is still not recognised by the ICASL as a sufficient qualification for meeting the examination requirement for its membership.

COMPARISON OF ACCOUNTING EDUCATION IN SINGAPORE AND SRI LANKA

Our discussion in the preceding two sections reveals that, despite the similar colonial influence on the two countries, there exist a number of differences between Singapore and Sri Lanka in terms of their accounting education systems. The most obvious difference is that while Singapore successfully moved away from the colonial system of producing accountants, Sri Lanka is still following the same old system. In Singapore, only the practical training and the continuing professional development activities are handled by the professional accounting bodies. Professionals in many countries have concluded that the university is the most appropriate institution to organize and offer comprehensive programs of study that provide the foundations for competent accounting professionals. By adopting this model, Singapore has been able to produce high-quality accountants locally in sufficient numbers to support their expanding economy (Tan, et al., 1994). The three-year Bachelor of Accounting degree awarded by the university is accepted by the professional accounting body in Singapore as an adequate qualification for professional recognition without further examination, subject only to the practical experience. As such, the university accounting education has enabled the Singaporean professional accounting body (ICAPS) to increase its membership from 344 in 1964 to 7,444 in 1992 and concentrate more effectively on the professional development of accountants in the country (Tan, et al., 1994).

In Sri Lanka, even the four-year accounting degree with 60-week practical experience is not accepted by the ICASL as an adequate qualification for granting exemptions from its professional examinations. As shown in Table 1, the rate of failure at these examinations is enormously high. Several reasons seem to have contributed to the poor student pass results on the ICASL examinations. A principal reason is the inadequate teaching time and coverage of subject matter devoted to each subject in the study programs. The professional accounting body is not a full-time educational institution and does not have a full-time teaching staff who can devote individual attention to the different student needs. The amount of time devoted to lectures, tutorials and assignments and subject matter coverage at a full-time university is much greater than those of a study program provided by the professional body.

In 36 years, the ICASL has produced only 1,680 professional accountants with an annual supply as low as 47. Since 617 of these accountants have left the country for employment abroad, the actual number of locally qualified professional accountants working in Sri

Table 1. Results of Examinations Conducted by the Institute of Chartered Accountants of Sri Lanka—1994

Title of Examination	*Number of Candidates*	*Number of Passes*	*Percentage of Passes*	*Percentage of Failure*
Licentiate Part I	5,074	1,045	21	79
Licentiate Part II	2,008	749	37	63
Professional Part I	1,260	290	23	77
Professional Part II	498	111	22	78
Professional Part III	275	63	23	77
Professional Unit I	21	4	19	81
Professional Unit II	46	2	4	96

Source: Annual Report of ICASL 1994.

Lanka was only 1,063 in 1995 (ICASL, 1995). Even when the accountants with British qualifications are added to this figure, the total number of professionally qualified accountants working in Sri Lanka is only around 2,000. For a country with 17.9 million people, this seems grossly inadequate to sustain economic development. By contrast, Singapore with only 2.9 million people has over 8,000 professionally qualified accountants today.

The establishment of a local accounting body in Sri Lanka (ICASL) in 1959 was undoubtedly a very important step toward the development of accounting education and practice in the country. Unfortunately, the ICASL accounting curriculum is not designed to suit the local needs, instead, it is a replica of the accounting curriculum of the Institute of Chartered Accountants of England and Wales (ICAEW) as indicated in Table 2.

Another feature of the deep-rooted colonial influence on accounting education at the professional level in Sri Lanka is the heavy emphasis placed on the legal and auditing aspects of accounting with inadequate attention being devoted to managerial accounting. As a result, accounting education in Sri Lanka concentrates on the technical or mechanical aspects of accounting. In this regard, what Enthoven observed in most developing countries three decades ago is still applicable to Sri Lanka:

> Unfortunately, in most developing economies accounting is still not viewed as a tool for such management purposes as realistic comparison, evaluation, and decision making. Its primary objective is still the accumulation of (historical) data for financial statement and auditing purposes. Although this is a necessary and valuable function, it is not wholly satisfactory for the essential "development programming" in these economies. That the accounting requisites of a mature economy are different from those in a country at or near the "take off" point should be stressed (Enthoven, 1967: 109).

The above situation is apparent in examining accounting education programs in Sri Lanka. For example, cost and management accounting courses in the curriculum of the ICASL account for only 10.5 per cent of the curriculum (Table 2). A large proportion of what remains is devoted to the basic objectives and procedures of accounting and how to comply with the technical requirements for corporate accountability, legal compliance and auditing. All of these topics are agreed to be essential elements in accounting. However, they are more of a preventive and detective character than directly supporting the development of

Table 2. Subjects for the Examinations of ICASL and ICAEW

Institute of Chartered Accountants of England and Wales (ICAEW)	*Institute of Chartered Accountants of Sri Lanka (ICASL)*
1959	*1960*
Intermediate:	**Intermediate:**
Bookkeeping & Accounts (incl. Companies)	Bookkeeping & Accounts 1
Bookkeeping & Accounts (incl. Partnerships)	Bookkeeping & Accounts 2
Bookkeeping & Accounts (incl. Executorship)	Auditing
Auditing	General Commercial Knowledge
General Commercial Knowledge	**Final—Part 1:**
Taxation and Cost Accounting	Advanced Accountancy 1
Final:	Advanced Accountancy 2
Advanced Accounting—Part 1	Partnership and Company Law
Advanced Accounting—Part 2	Mercantile Law
Auditing (incl. Investigations)	**Final—Part 2:**
Taxation	Management Accountancy
General Commercial Knowledge, Cost and Management Accounting	Auditing
	Taxation
English Law—Part 1	General Commercial Knowledge
English Law—Part 2	
1996	*1996*
Foundation Education:	**Licentiate I:**
Financial Accounting and Auditing	Financial Accounting
Business Law	Business Math., Statistics & Data Processing
Economics	Business Communication (English) Paper 1
Introduction to Financial Decisions	**Licentiate II:**
Company Law	Cost and Management Accounting
Management and Marketing	Auditing
Intermediate:	Business Environment (Economics, Law, Taxation & Management)
Auditing and Professional Issues	
Financial Reporting	**Professional I:**
Taxation	Accounting Theory
Business Planning and Finance	Auditing (Principles, Techniques & Procedures)
Management Information and Control	Economics, Finance and Commerce
Final:	Commercial and Industrial Law
Advanced Auditing and Financial Reporting	Business Communication (English)—Paper 2
Advanced Taxation	**Professional II:**
Advanced Business and Financial Management	Advanced Financial Accounting
Multidisciplinary Case Study	Taxation
	Corporate Law
	Information Technology
	Professional III:
	Management Accounting & Operations Research Techniques
	Financial Management
	Auditing (Practice)
	Management

Sources: Arthur N. Lorig (1960), Training Accountant in Great Britain, *The Accounting Review*, July, p.457-58; ICASL, *Annual Report 1994;* ICAEW, *Training to Become a Chartered Accountant*, July 1996.

entrepreneurial skills (Standish, 1983: 5). The development of entrepreneurial skills is extremely important for the developing economy like Sri Lanka.

In Singapore, students who obtain high marks at the GCE advanced level examination[2] and aspire to pursue an accounting career can enter the accounting profession through a university degree program. This opportunity to advance to professional status through formal education enables the professional accounting body in Singapore to admit academically superior and competent accountants to the profession in relatively large numbers. By contrast, Sri Lankan students who have not been able to obtain the high marks required for admission to university degree programs are the ones who normally register for examinations of the ICASL and British professional accounting bodies. Most of these students depend on private tutoring to study and prepare for examinations of these professional bodies. Nevertheless, the rate of failure at these examinations is extremely high, certainly due in part to the low academic level of students seeking the qualification. Students who obtain the highest aggregate marks at the GCE Advanced Level examination and are admitted to the accounting degree program at the University of Sri Jayewardenepura are not exempted from the examination requirement of the ICASL. Consequently, we fear that some of them are diverted to non-accounting careers. It is a pity that the apparently most qualified students are not encouraged to enter the accounting profession. The situation in Sri Lanka provides a classic example of a developing country where the colonial influence on accounting education is so powerful that even the political authorities do not dare to break it despite a clear need for more qualified accounting professionals.

Sri Lankans in large numbers continue to depend on a number of British professional accounting bodies to obtain professional qualifications. A considerable number of these candidates have become fully qualified professional accountants, however, many others complete only parts of the examinations. The British professional examinations are based on the subject matter applicable to the British economy. This is appropriate for Britain. However, the Sri Lankan economy is very different from the British in many ways, thus a considerable amount of the subject matter covered in the above examinations is not relevant for a Sri Lankan accountant. For example, subjects like British Taxation and British Company Law are almost totally irrelevant in Sri Lanka. One should not assume that what might be good accounting for a developed country will automatically be relevant and good for an developing nation and its development process (Enthoven, 1973). For accounting to be an effective contributor to a country's economic development, what prospective accountants study must be relevant to the social, political, legal, and economic conditions within which they operate (Briston, 1978; Hove, 1986). As such, the accountants produced through studies and examinations based on a developed Western country are unlikely to contribute effectively toward meeting the needs of the developing economy in Sri Lanka.

CONCLUSION

As mentioned previously, accounting education developed rapidly in Singapore mainly as a result of its prompt recognition and encouragement by the professional accounting body. Sri Lanka would have made a much greater progress by now, if the university authorities had taken similar steps to establish accounting departments and accounting degree programs in their universities. The major reason for their reluctance to set up accounting departments and degree programs is the non-acceptance of university accounting education by the ICASL for professional recognition. In most developed and fast developing nations, universities play the major role in producing accountants who can contribute effectively to the nation's economic development. For example, Korea established its first university department for accounting in 1978. By the end of 1989, it had established similar departments and accounting degree programs in 50 universities with a total enrolment of nearly 15,000 accounting students (Min, Song & Kim, 1993). Similarly, in China many universities have accounting departments offering accounting degree programs at both undergraduate and postgraduate levels (Lin & Deng, 1992). In contrast, the Sri Lankan university system still has only one accounting department with less than 400 students for the whole country.

Sri Lankan political and educational leaders must pay a greater attention to accounting education and take steps to make it relevant and appropriate to solving the problems of economic development.

NOTES

1. The country was known as 'Ceylon' until the name was changed to 'Sri Lanka' in 1972.
2. In Singapore and Sri Lanka, students are admitted to universities on the basis of the results obtained at the General Certificate of Education (Advanced Level) Examination.

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Book Review

Japanese Accounting—A Historical Approach *by Kyojiro Someya, Claredon Press, Oxford, 1996, 241 pp, $70.*

Many articles and books have been written on Japanese management practices, production and inventory maintenance systems, and business culture. Little, however, has been written on the distinct Japanese approach to accounting. The collection of Professor Someya's essays presented in this book reflects the evolution of Japanese accounting over the 50 year period following the second World War. Tracing the author's footsteps through his various research projects also exposes the reader to the different views of other prominent Japanese researchers. Professor Someya, a former president of the Japanese Accounting Association, is currently the Director of the Japan Tax Institute and the focus of his research reflects the changes in the economic and business conditions in Japan.

The Japanese economy suffered a devastating blow during the second World War, followed by a high level of economic growth. During this time, there were many challenging economic developments. The Japanese accounting research, through its practical applications, has contributed significantly to revitalizing the Japanese economy. Some examples include the development of a suitable financial reporting system assisted in controlling the rampant post-war inflation, rationalizing Japanese business management, and establishing and fostering the Japanese stock exchange.

The work described in this book spans three main areas of research. The first deals with the history of Japanese accounting. The second focuses on financial accounting theory. The third concentrates on cash flow accounting in the context of the difficulties related to the high inflation in Japan in the immediate post-war period.

After a brief overview of his course of accounting research, Professor Someya describes in the second chapter the accounting 'revolutions' in Japan. In particular, he details the introduction of investor-oriented financial reporting and other factors that contributed to the evolution of the Japanese accounting practices. Chapter 3 describes accounting and financial reporting in Japan under the commercial code and the securities and exchange law. It also discusses the Financial Accounting Standards for Business Enterprises (FASBE), the international accounting standards, and the tax system. Chapter 4 deals with Japanese accounting principles and the users of financial information. In particular, it highlights the impact of the changes in the social environment on the Japanese accounting principles. Chapter 5 presents external views and their impact on major revisions to the Japanese authoritative accounting literature. Chapters 6 through 8 describe traditional Japanese bookkeeping procedures and contrast them to current Japanese and common international procedures.

The International Journal of Accounting, Vol. 33, No. 2, pp. 283-291 ISSN: 0020-7063.

Chapter 9 describes the three domains of financial reporting: income measurement, cash flow accounting, and balance sheet items. It describes the development of Japanese financial accounting by detailing the distinction between accounting for capital maintenance and accounting for decision making. Chapter 10 describes the author's proposal for the incorporation of "cash-cost" classification to replace the "current-fixed" classification of balance sheet items. This essay is consistent with the author's prior writing, which advocated the inclusion of a fund statement among the other financial statements. Chapter 11 details the distinction between cash flow *versus* flow of commodities (production, consumption, and distribution of social wealth). Professor Someya contends that the objective of business accounting is to present *both* the cash flow and flow of commodities. Hence, the author demonstrates the need for three financial reporting domains: accounting for income measurement (reflecting the flow of commodities), cash flow accounting, and balance sheet presentation, to incorporate both the cash flow and the flow of commodities and to account for the discrepancies between the two statements.

Chapter 12 presents Professor Someya's views about the role of accounting in industry and society. By measuring, recording, and disseminating the economic activities of individuals and organizations, accounting contributes to the industrial development and to society at large. Chapter 13 discusses the accounting unit of measure and the translation of foreign currency transactions and financial statements of foreign subsidiaries. Between 1949 and 1971, the exchange rate between the Yen and the U.S. Dollar remained stable as established by the IMF. Since August 1971, however, there have been wide fluctuations in the exchange rates, which caused significant accounting problems. Professor Someya argues that exchange rate fluctuations should not be considered as related to the attributes being measured, but rather, to the accounting unit of measure. He advocates the translation of financial statements of foreign subsidiaries into domestic currency by using the "current" exchange rate prevailing on the balance sheet date. The second part of the book ends with Chapters 14 and 15, dealing with accounting standard selection and its socio-economic consequences. In this recent essay from 1993, Professor Someya contends that "...in to-day's society we have reached a point where accounting standards cannot be established without considering their social and economic consequences."(page 147).

The third part of the book deals with "cash flow" accounting. This issue has received special attention by the author because of periods of high inflation in the history of Japan, for example, at the end of the Second World War. The accounting profession was challenged to avoid confusing higher nominal sales figures coupled with lower nominal costs of sales against the economic reality of losing due to the erosion in the purchasing power of the money. The income statements and balance sheets, which were based on the accrual method did not reflect the real value and economic activity of the Japanese enterprises and this called for the emergence of cash flow accounting. Accordingly, Chapters 16 through 20 describe the preparation and use of cash flow and fund accounting statements in Japan. Finally, Chapter 21 describes how heads of accounting departments for major Japanese companies view the statements of cash flow.

The writing and translation of Professor Someya are generally very clear, although occasionally there are statements which seem to be distorted by the difficult task of translation. For example, on page 2, the author very ably describes a misconception, prevalent during inflationary times, confusing "nominal" revenues and expenses with "real" revenues and expenses. He states: "...to continue showing profits but still be plagued by a lack of cash means that a company is in fact operating below cost." I believe that the author does not mean that there is a "lack of cash" during inflationary times, but rather, that there is a lack of purchasing power during inflationary times.

There is only one point in which I allow myself to have a different opinion than that of the distinguished author. Professor Someya advocates the translation of financial statements of foreign subsidiaries into domestic currency by using the "current" exchange rate prevailing on the balance sheet date. In my opinion, the logic behind the "temporal" method as required, sometimes, by FASB 52 is preferred. It is more consistent with the accounting treatment of the other issues as it allows for historical exchange rates for items when they were measured by the "historical" cost.

In conclusion, I believe that this collection of essays by Kyojiro Someya presents a substantial contribution to the field of accounting. The author has tried to address not only the basic accounting developments in Japan, but also to trace the socio-economic background and the reasons for these developments. Readers of Japanese financial statements, accountants, potential investors, and creditors will find this book concise, useful and very readable.

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Accepted by Belverd E. Needles, Jr.

Accounting Research in Lund, *edited by Kristina Artsberg, Anne Loft and Stefan Yard, Lund University Press, Lund, 1993, 248 pp, ISBN 91-7966-242-0 (SEK 196) 248 pp.*

The worst thing about this book is its title, which provokes the questions, "Where is Lund?" and "What possible interest can there be in the accounting research there?" The answer to the first question is easy: Lund is a small town in Southern Sweden, whose principal claim to fame is that it is the site of that country's second oldest university. The answer to the second question is more problematical, but I hope that, by the end of this review, I will have persuaded at least some of my readers that at least part of the accounting research carried out at Lund deserves their attention.

The book consists of thirteen separate papers. The editors claim in their introduction that the papers have two common characteristics: they are all concerned in various ways with the relationship between accounting and its social and organisational context, and that they are all in some way "interdisciplinary." Thus the papers reflect a distinctively Swedish approach to research which for the non-Swedish reader enhances their interest and originality. I consider this claim later in the review. At the outset I make the point that the papers cover a very wide field, including standard-setting, company law, taxation, organisational matters, budgeting and auditing. Apart from the fact that all the papers reflect the Swedish approach to research, there is no common theme running through the book. Hence it is very unlikely that anyone (apart from reviewers!) will read the book from cover to cover. Furthermore the papers are of very mixed quality: some are excellent; two or three a frankly rather poor and which would be likely rejected by a refereed journal. Faced with this diversity, I feel that the most useful way to review this book is to give a short analysis and evaluation of each paper, concentrating on those which I consider to be the more interesting for the non-Swedish reader.

Determinants of Accounting Choices by the Auditing Profession: Kristina Artsberg

The first paper is concerned principally with standard-setting in Sweden, concentrating on the standards set by the Swedish auditing profession, FAR. The research consists of an analysis of the twenty standards issued by FAR up to 1989, backed up by interviews with seven leading auditors. The main conclusions are that, over the period 1957-1989, there was a change in valuation principles from prudence to matching, a change in recognition criteria from form to substance and a change in legitimation from law to practice. The paper is a shortened version of the author's doctoral thesis, which was published in Swedish in 1992. In editing her thesis for this book, the author seems to have left out many important points. The paper is disjointed and the basis for many of its conclusions is unclear. A further weakness is that the paper is rather out of date; the reported research was completed in 1990. Hence the recent reform of the Swedish standard-setting system, which led to the setting up of the Accounting Council in 1989, is not mentioned. Regrettably the first paper in the book is not one of the best, but readers should not be put off. Many of the following papers are much better.

Accounting and Taxation: Kristina Artsberg & Christer Nilsson

This paper is excellent. It gives a very clear analysis of the role and influence of taxation on financial reporting in Sweden, where the state claims to regulate financial reporting in the public interest (largely, but not exclusively, for taxation purposes). Most of the leading actors in the accounting field in Sweden consider that the connection between accounting and taxation is desirable. This is in sharp contrast with the position in the Anglo-Saxon countries, where the accounting profession considers that the influence of tax rules on financial reporting is most harmful. The difference in assessment is attributed to the different principal function of accounting: in the Anglo-Saxon countries, the informative characteristics of accounting are stressed; in Sweden, the distributional and calculative functions are more important. Clearly these different approaches create problems for international accounting harmonisation. One possible solution is to concentrate on disclosure and not on valuation, that is Swedish companies should be allowed to retain their tax-driven valuations on condition that they provide additional information. The great value of this paper is that it challenges, in a very clear and well-argued way, the conventional wisdom of the Anglo-Saxons, that in financial reporting the interests of the shareholders should have priority over those of the state. The paper should be compulsory reading for all students in Anglo-Saxon countries who accept the dogma that the principal function of financial reporting is to provide information for the capital market.

Accounting Harmonization: Olaf Arwidi *and* The Development of Budgetary Control in Sweden: Olaf Arwidi & Lars Samuelson

Olaf Arwidi contributes two papers. The first paper (on accounting harmonization) is very difficult to follow and in your reviewer's opinion is of very limited interest. The second paper traces the changing role of budgeting in Sweden from the 1950s, when the principal objective was cost control, through to the 1990's when budgeting serves a multitude of purposes including facilitating the delegation of responsibility to decentralized operations. The tasks and methods of budgeting have grown quantitatively, but this does not mean that budgeting has become "better," simply that it has become more complex. An important current trend is the greater use of non-financial measures, relating to such matters as quality and the environment. Specific reference is made to the T50 project of a major multi-national which aims to reduce all activity times by 50%. The author concludes that more research is needed on the effect of non-financial measures. Your reviewer agrees completely: to concentrate on time to the exclusion of other factors would seem to be the surest way of going bankrupt.

The Role of Administrative Arrangements in Coordinating Federative Structures: Karin Jonnergård

This paper is on "federative organisations," specifically retail cooperative societies, where the central organization is owned by the member cooperatives, in complete contrast to the typical group of companies, where the central organization (the holding company) owns the subsidiaries. Based on case studies of two "federative organisations" (in Sweden and in Canada) undertaken in 1983-5, the author demonstrates very clearly how the success of this organizational form depends on a value system that binds the members together, backed up by matching administrative arrangements. The paper is well-researched and well-written. For your reviewer, its great value is that it deals with a form of business organization that is fundamentally different from the limited company/corporation which dominates the text-books, and thus it provides a useful stimulus to questioning conventional wisdom. The paper's greatest weakness is that the research on which it is based is over ten years old and is thus principally of historical interest.

From Gemeinschaft to Gesellschaft: Karin Jonnergård, Per Arvidson & Jörgen Carlsson

Karin Jonnergård is also the joint author of this beautifully written and well argued paper which is based on the ideas of the little-known Swedish sociologist, J. Asplund. "Gemeinschaft" refers to less formal family-like social organisms which are based on mutual trust and solidarity. "Gesellschaft" refers organizations, such as commercial enterprises, which are based on formal contractual relationships, often reflecting the economic interests of the members. The authors hypothesise that, in recent years, there has been a shift from Gemeinschaft to Gesellschaft in Swedish society. The authors present a detailed analysis of two Swedish organizations: the retail cooperative movement (the subject of the previous paper) and the police force. Accounting has been a major factor in this shift—as a facilitating factor not as a causal factor—in that a Gesellschaft seeks to measure what a Gemeinschaft considers to be either immeasurable or not worth measuring. An interesting point is that the shift from Gemeinschaft to Gesellschaft can be interpreted as a bid by an organization to achieve greater legitimacy in relation to the rest of society. Over the last thirty years, the Swedish retail cooperative movement has lost not only market share but also the respect of many Swedes, who regarded it as highly inefficient by comparison with commercial firms. By adopting the characteristics of Gesellschaft, the retail corporative movement is seeking to make itself more similar to those commercial companies which are deemed to have greater social legitimacy. The paper is well written and illustrated with appropriate examples from the two organizations studied. Its value to the non-Swedish reader is that it gives an insight to the behaviour of organizations different from the text-book profit-maximising firm.

Environment Accounting: the Swedish Case: Fredrik Ljungdahl

This paper presents the results of a survey of the environmental reporting practice of the 62 largest quoted companies on the Stockholm stock exchange. The annual reports were examined to see if they contained the information recommended by the United Nations' ISAR working group. In fact only slightly over half of the annual reports contained any environmental information whatsoever and only 25 (40%) contained information recommended by the UN. Each of the 25 reports contained on average only 2.5 of the 14 different information elements recommended by the UN. No company reported on environmental contingent liabilities; the author speculates that this is due to the great difficulty of valuing this type of liability. The most commonly presented type of environmental information is that related to the company's products—which is not even mentioned in the UN's report. The paper is clearly written and provides both a useful (but in no way original) introduction to the whole subject and an analysis of the position in Sweden. However it is based on research undertaken in 1990/1, which presumably is now out of date.

Audit Concentration in Sweden and Denmark: Anne Loft & Agneta Sjöfors

This paper analyses the increase in audit concentration in Sweden (between 1985 and 1990) and in Denmark (between 1988 and 1991). The dates chosen are before and after the mergers that reduced the Big Eight to the Big Six. Not surprisingly the research reveals a significant increase in concentration. The authors use sophisticated mathematical techniques to prove what many observers would consider to be blindingly obvious; however it is good to be rigorous. In Sweden in 1990, three audit firms were responsible for auditing companies that represented 63% of the turnover of all quoted companies (in 1985 the same market share was held by seven audit firms). In Denmark in 1991 the top two audit firms audited 56% of quoted companies (by turnover). In both countries the Big Six became increasingly dominant, as is illustrated by certain very significant name-changes. The largest Danish audit firm changed its name from "C.Jespersen" to "KPMG C.Jespersen." In Sweden the second largest firm changed its name from "Bohlins" to "KPMG Bohlins," and the third largest from "Hagstrrm & Olsson" to "Ernst & Young." The authors ask some interesting questions as to the consequences of the increasing dominance of the multinational audit firms: for example what will happen to the nationally defined notion of "good auditing practice" which is embodied in the law of both Sweden and Denmark. The value of this paper is that it makes available to the English-speaking reader research on audit concentration in Sweden. The Danish research is fully described in an article published in the European Accounting Review in 1992.

Accounting for Goodwill: The Swedish Case: Sven-Arne Nilsson

The subject of this paper is the controversy over the accounting treatment of goodwill that arose in Sweden in the late 1980's. At this time a significant number of major Swedish companies accounted for goodwill in ways that were apparently contrary to the law and the standards set by the Swedish auditing profession. The law prescribed that goodwill should be amortised over not more than ten years. However beginning in 1986 an increasing number of Swedish companies began to employ other methods, notably writing off directly to reserves (used by 26 companies in 1989) and amortising over more than ten years (used by 20 companies in 1989). The impetus came from Swedish companies that were listed on foreign stock exchanges (notably New York and London) which preferred to follow the foreign rules rather than the Swedish ones. Most Swedes were horrified by this flouting of the law. The Swedish government reacted by setting up the official Accounting Council as a standard setting body to supplement the auditing profession's private body, whose standards had been ignored by so many Swedish companies. The first standard issued by the new body dealt with accounting for business combinations and adopted the IASC's approach. However the paper, which was apparently written in 1992, does not enlighten us as to whether the new body has succeeded in restoring order by successfully imposing its standard on Swedish companies. The value of this paper to the non-Swedish reader is that it demonstrates the difficulty that a small country may experience in attempting to maintain its own local accounting standards in the face of the increasing globalization of the world economy. Sweden is particularly vulnerable in that it has a remarkable number of multinational companies that are quoted on foreign stock exchanges and which tend to resist the imposition of Swedish rules that conflict with American or British rules.

The Historical Development of Company Law in Sweden: Sven-Arne Nilsson & Martin Smiciklas

This short paper gives in four pages a very brief summary of Swedish company law up to 1910.

Accounting Systems in Their Context: Gert Paulsson

This paper presents the results of a study of the accounting systems of a Swedish health care district carried out by the author in 1990. The study focussed on changes in the organisational structure of the district whereby departmental managers were given greater responsibility for the buying and selling of health services. This change led to new demands being placed on the accounting system, for example, for information that would facilitate the pricing of the services that were bought and sold. The author considers that this analysis is consistent with the "orthodox" approach in which the aim of accounting is deemed to be the provision of information that helps to improve efficiency. However, there is also evidence of what is termed the "institutional" approach—that accounting is used as a means of enhancing the legitimacy of the manager and the organization. At the time of the research, public health care organisations were widely criticised as being hopelessly inefficient by comparison with private firms. The reform of the accounting system was a way of deflecting this criticism. The principal value of this paper is that, through the case study, it provides a valuable bridge between theory and practice. However, the paper is rather brief. Serious students would be advised to consult the author's book on the study, which is published (in English) by the Lund University Press.

Investment Evaluations in Swedish Companies: Stefan Yard

This paper reports on a 1986 study of the capital investment criteria used by Swedish companies. There are two striking results: that the most widely used method was pay-back, employed by 42% of responding companies; and that the pay-back method was preferred by companies with relatively low and relatively high profitability. Companies in the middle (with average profitability) preferred methods that used discounting (NPV or IRR). The author attributes this preference to the flexibility offered by the pay-back method, in that it more easily allows the consideration of criteria other than cash flows. The second part of the paper describes the very complicated mathematical technique used by a large unnamed Swedish corporation in the 1980's. This part is interesting, not so much for the details of the technique, but for the author's assessment that, over time, the technique became so complicated that the staff did not understand it and treated it as a "black-box." However, the technique was only changed when the corporation merged with another firm that used IRR, which evoked the author's dry comment "Corporation harmonization seems to be considered to be a more important factor when choosing evaluation methods than theoretical consistency or understandability by users."

Accounting and Visibility: Anne Loft

This paper examines the role of cost accounting as a means of increasing the power of managers to control the operations within factories, particularly the activities of workers. Reference is made to the work of the French thinker, Michel Foucault, particularly his analysis of the rise of the factory as a "disciplinary institution." But all the examples in the text are from Britain; the author, a part-time professor at Lund University, is of British origin. The cost accounting system and management control regime at the Soho works in Birmingham are analysed in detail, as is the accounting system described in a British textbook of 1932. The paper is well-written and provides a useful introduction to the subject of alternative interpretations of the function of cost and management accounting of which there is a growing literature. However it has nothing to do with Lund.

Finally I consider the editors' claim that the papers in the book are of particular interest because they reflect a peculiarly Swedish approach to accounting research. In my opinion this claim is rather exaggerated. In the case of only four papers (numbers 2,5,6 and 10) did

I detect a specifically Swedish flavour in the research approach. They were also (perhaps coincidently) the best and the most interesting from the viewpoint of the non-Swedish reader. Most of the remaining papers are of interest in that they provide an insight into the position in Sweden, but there was nothing unusual or exceptional in the research approach or the research methods that they employed. The last paper is a straightforward piece of Anglo-Saxon research. In my opinion the value of this book is that it makes available for the English-speaking reader research that has previously been published only in Swedish. Lund University is to be congratulated in taking this initiative to bring its accounting research to a wider audience.

Reviewed by John Flower
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OF ACCOUNTING
ISSN: 0020-7063

JAI PRESS INC.
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Volume 33 • Number 3 • 1998

ublished by

JAI Press Inc.
Stamford, Connecticut London, England

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enter for International Education and Research in Accounting,
niversity of Illinois at Urbana–Champaign

Name of publication: **THE INTERNATIONAL JOURNAL OF ACCOUNTING** (ISSN:0020-7063)
Issue: Volume 33/Number 3/1998
Frequency: Published Quarterly
Office of publication: 100 Prospect Street
Stamford, Connecticut 06901-1640.

Subscription rates (postage included):

Institutions: United States $225.00
Foreign Surface Mail $250.00
Foreign Air Mail $275.00

Individuals: United States $95.00
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Volume 33 • Number 3 • 1998

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THE INTERNATIONAL JOURNAL OF ACCOUNTING

VOLUME 33 NUMBER 3 1998

ARTICLES

BOOK REVIEWS

The International Journal of Accounting

National Culture and Subordinates' Upward Communication of Private Information

Chee W. Chow, Richard Nen-Chen Hwang, Woody Liao and Anne Wu

Key Words: National culture; Management controls; Subordinate communication truthfulness

Abstract: *This study investigates the effects of national culture on the truthfulness with which subordinates communicate upwards under alternate pay schemes. U.S. nationals and Chinese nationals in Taiwan were used to represent members of two cultures that significantly diverge on three cultural dimensions postulated to be relevant to this behavior: Confucian dynamism, individualism/collectivism and a correlate of the latter: concern with "face."*

The results of an experiment were consistent with the prediction that in the absence of face-to-face interactions with superiors, Chinese relative to U.S. nationals would make smaller misrepresentations of their private information. Also consistent with prediction based on concern with "face", both national samples had lower levels of misrepresentations when there was face-to-face interaction between superior and subordinate. However, contrary to prediction, U.S. nationals reacted more to such interactions than did their Chinese counterparts. Taken as a whole, these findings support the importance of national culture and attributes of the control setting on subordinates' communication truthfulness. At the same time, they suggest that how these factors affect employee behavior is more complex than hypothesized.

INTRODUCTION

Resource allocations in decentralized firms often rely on information supplied by subordinate managers. If these managers are not properly motivated or controlled, then they may misrepresent their private information to further their self interests at the firm's expense (Dye, 1983; Penno, 1984; Radner, 1986). Analytical research has proposed pay schemes for motivating truthful subordinate reporting, and three experimental accounting studies—Waller and Bishop (1990), Chow et al. (1994a, 1995)—have tested the truth-inducing properties of some of these schemes. In particular, all three studies have compared subor-

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The International Journal of Accounting, Vol. 33, No. 3, pp. 293-311 **ISSN: 0020-7063.**

dinates' communication truthfulness under the reportedly common linear profit sharing (LPS) scheme against one (Groves) that has received much attention in the analytical literature (Groves, 1973, 1976; Green and Laffont, 1977; Groves and Loeb, 1979; Jennergren, 1980).[1] All found the Groves scheme to be more effective than the LPS scheme at suppressing subordinates' misrepresentations of private information, though it did not eliminate subordinate misrepresentations.[2]

While these prior studies have advanced understanding of how incentive schemes affect subordinates' communication truthfulness, their findings are limited by the narrow scope of the experiment. In particular, all three studies have focused on the analytical properties of the pay schemes tested, and suppressed personal interactions between superior and subordinate. Yet both the organizational communication and accounting literatures have long identified face-to-face interactions between superiors and subordinates as an important form of management control (Lewis, 1980; Birnberg and Snodgrass, 1988; Merchant, 1989). Thus, in his critique of accounting experimental studies on employment contracts, Waller (1994) stressed the need to go beyond the analytical properties of such contracts to systematically introduce "experimental treatments that represent behavioral as well as economic conditions," because they may reveal "empirical patterns that supplement the insights derivable from analytical methods" (p. 722). Along the same vein, Baker et al. (1988) have suggested that economic models of incentive schemes may need to be enriched by incorporating the insights of psychologists, behaviorists, human resource consultants and personnel executives for compensation practices. The current study is, in part, a response to these calls for change by introducing face-to-face interactions between superiors and subordinates.

A related objective is to explore whether the effects of controls can be generalized across national boundaries. There is accumulating evidence that people from different nations differ in their work-related values and how they react to management practices (Adler, 1996; Birnberg and Snodgrass, 1988; Chow et al., 1996; Hofstede, 1980, 1991; Kreder and Zeller, 1988; Vance et al., 1992; Vertinsky et al., 1990). For example, Chow et al. (1996) have found that relative to their U.S. counterparts facing the same tightness of controls, Japanese profit center managers were less inclined to engage in activities that were dysfunctional to the company (e.g., myopic actions and data manipulations). Cultural differences also have been suggested as potential explanatory factors for many U.S. companies' failed attempts to adopt Japanese management practices (Fucini and Fucini, 1990; Naj, 1993; Young, 1992). Thus, there is reason to expect that both the mix of management problems (e.g., the extent to which subordinates will engage in misrepresentations), and the most effective means of controlling them may differ cross-nationally. In the current study, national culture is hypothesized to affect subordinates' communication truthfulness under alternate performance-based pay schemes, and in the absence as opposed to the presence of face-to-face interactions with superiors. Beyond advancing understanding of the determinants of subordinate misrepresentations, the findings also can help the design of controls to curtail their occurrence in different national settings.

National culture is tested in this study by comparing U.S. nationals and Chinese nationals in Taiwan. The former are broadly representative of the Anglo-American cultural cluster (e.g., Australia, New Zealand, United Kingdom, United States), while the latter are part of the Chinese-based cluster (e.g., Mainland China, Taiwan, Singapore) (Harrison et al., 1994; Hofstede, 1980, 1991; O'Connor, 1995). Aside from being divergent from U.S. culture—thus enabling a more powerful test of culture's effects—Chinese-based culture is worthy of study because of the emergence of the People's Republic of China and the economic power of the overseas Chinese (Barnathan et al., 1993; Drucker, 1994; Kraar, 1993; Merchant et al., 1995).

The remainder of this paper is organized as follows. The next section provides a review of the literature as the basis for developing two hypotheses. Then the research method and findings are presented. The final section provides a summary and discussion.

LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

National Culture and Subordinate Behavior

Many alternative ways to operationalize the national culture construct have been proposed (Adler, 1996; Child, 1981; Hofstede, 1980, 1991; Schein, 1985; Schwartz, 1994; Smith et al., 1996; Triandis, 1984). Synthesizing these varied approaches is beyond the scope of this study, and we organize our discussion and analysis around Hofstede's (1980, 1991) taxonomy in part because it is well supported empirically (e.g., Bochner (1994), Chinese Cultural Connection (1987), Hofstede and Bond (1984), Sondergaard (1994)), and in part because it is arguably the most widely cited and applied in management and accounting research (e.g., Chow et al., 1991, 1994b, 1996; Gudykunst and Ting-Toomey, 1988; Harrison, 1992, 1993; Harrison et al., 1994; O'Connor, 1995; Merchant et al., 1995; Soeters and Schreuder, 1988).

Hofstede's (1980, 1991) taxonomy identifies five major components of national culture: individualism/collectivism, Confucian dynamism, masculinity/femininity, power distance, and uncertainty avoidance.[3] Of these, individualism/collectivism, Confucian dynamism, and a correlate of the former—concern for "face"—are especially relevant to the phenomenon of interest in this study.[4]

Individualism/Collectivism

Individualism and its opposite, collectivism, relate to the relative emphasis that individuals place on their self interests as opposed to those of the group (e.g., family, company). Students of culture have often cited this attribute as being a fundamental, or core, value that differs across nations, especially those from the East and West (Triandis, 1989; Lachman et al., 1994). According to Hofstede (1980, p. 166), employees from collectivist cultures tend to have an emotional dependence on, and a perceived moral involvement with, the company, and practices and behaviors are premised on a sense of loyalty and duty binding the individual to the organization. In contrast, members of individualist cultures tend to be emotionally independent from the company, their involvement with the latter tends to be calculative, and work-related practices and behaviors tend to allow for individual initiative and expression.

In the case of U.S. nationals and Chinese nationals in Taiwan, Hofstede (1991, p. 53) has reported individualism scores of 91 and 17, respectively. Consistent with Hofstede's numerical findings, students of Chinese-based culture have often cited collectivism as one of its main characteristics, noting especially its emphasis on subjugating one's own interests to those of the collective (Bond et al., 1982; Bond and Hwang, 1986; Leung and Bond, 1984; Redding, 1980). In contrast, the self-interest motive is often identified as the cornerstone of Anglo-American management theories and practices (Bellah et al., 1987; Earley, 1993; Harris and Moran, 1987; Triandis et al., 1988). To the extent that Chinese nationals emphasize collective interests more so than U.S. nationals, they are less likely to seek personal gain (such as through misrepresenting their private information) at the expense of the firm when facing the same pay scheme as the latter.

Concern with "Face"

A correlate of individualism/collectivism is concern with "face." "Face" represents the positive social value that a person claims for him/herself by the line that others assume he/she has taken during a particular contact (Goffman, 1955), and would be lost if he/she fails to meet essential requirements placed upon him/her by virtue of the social position that he/she occupies. In the case of subordinates reporting their private information to superiors, misrepresentations of such information would tend to reduce the effectiveness of resource allocations. Since such dysfunctional acts may be detected (e.g., when outcomes are compared to submitted projections), subordinates' concern for face in the social setting of an employment relationship can be expected to reduce their misrepresentation tendencies. Consistent with the view that interpersonal interactions can affect behavior, Young (1985), Young and Lewis (1995) and Waller (1994) have suggested that social pressure to refrain from opportunistic behavior can significantly affect managerial actions. However, accounting studies to date on subordinates' communication of private information have not directly examined this determinant of behavior.[5]

Redding and Wong (1986, p. 286) note that while concern with face is a human universal, for the Chinese the degree of concern is particularly high. The reason for this, as explained by Ho (1976, p. 871), is that in the context of Chinese-based culture, "face is always attached to status...At stake is nothing less than the effective maintenance of one's standing in society." In contrast, Hofstede (1980) and Triandis (1989) observe that since members of an individualist culture are supposed to look after themselves, an individual's self respect can be preserved regardless of what other people think about him/her. Thus, while maintaining the respect of peers still is important in an individualist culture, it is less so than obtaining "inner-directed" satisfaction (Harrison, 1993).

Confucian Dynamism

According to Hofstede and Bond (1988), Chinese Cultural Connection (1987) and Hofstede (1991), this cultural dimension relates to the extent to which people emphasize long-term over short-term goals and concerns. In the case of subordinates misrepresenting their private information to superiors for short-term gain, detection of such misrepresentations can damage their long-run standing and prospects. To the extent that member of a high Confucian dynamism culture are more concerned with their actions' long term consequences, they are more likely to refrain from such behavior.

Hofstede (1991, p. 166) reports that the Confucian dynamism scores of U.S. nationals and Chinese nationals in Taiwan are 29 and 87, respectively. This directional difference suggests that relative to their U.S. counterparts, Chinese nationals would be more concerned with long-term than short-term gains.

HYPOTHESES

Based on the directional differences between Chinese and U.S. nationals on individualism/collectivism, concern for "face," and Confucian dynamism, we predict that they would react differently to the same pay scheme both in the presence and absence of face-to-face interactions with superiors. In the case of face-to-face interactions being absent, we expect misrepresentations of private information to be lower for Chinese relative to U.S. subordinates. First, the Chinese nationals' higher collectivism should make them more reluctant to seek private gain (via misrepresentations) at the expense of the organization. Second, since misrepresentations may be detected with the passage of time, Chinese nationals' greater concern for long-run consequences (via their higher Confucian dynamism) should further dampen their misrepresentation tendency. Hence:

H1: In the absence of face-to-face interactions with superiors, Chinese nationals would misrepresent their private information to a more limited extent than would U.S. nationals working under the same pay schemes.

When face-to-face interactions with superiors are present, issues of "face" become more salient. Since concern with "face" is universal, both Chinese and U.S. nationals are expected to have lower misrepresentations in the presence of such interactions. However, since Chinese relative to U.S. nationals have a greater concern for "face," the deterrent effect on them should be stronger. Thus:

H2: Controlling for the type of pay scheme, face-to-face interactions with superiors reduce misrepresentations by Chinese nationals more than they do for U.S. nationals.

METHOD

Design

The experiment had six cells derived from three between-subjects factors. Each factor had two levels. The first factor was national origin (U.S., Chinese). The second was pay scheme. The LPS and Groves schemes were selected because both have been included in all three related prior studies, such that their findings can potentially be related to the current study for additional insights. Because of resource considerations, the third between-subjects factor—presence vs. absence of face-to-face interactions between superior and subordinate—was crossed with only the LPS scheme. This choice was based on prior research having found the LPS scheme to induce high levels of subordinate misrepresentations. If the presence vs. absence of face-to-face interactions does affect subordinate misrepresentations, then this effect is more likely to be manifest under the LPS scheme.

Subjects

The sample consisted of 144 volunteer subjects, half each from Taiwan and the U.S.. All were full time upper-division undergraduate business students at a major university in their respective countries. During recruitment, subjects were told that they would earn cash based on their performance in a management simulation, but neither the nature nor the objective of the experiment was revealed to them. To increase homogeneity of cultural values within each national sample, all U.S. subjects were non-oriental while all Taiwanese subjects were of Chinese ethnicity and spoke Chinese as their first language.

Task

Consistent with the focus on allocating limited resources among alternate uses, the task involved pairs of division managers submitting competing project proposals to a central manager. In both national settings, each treatment was randomly assigned 24 subjects, who formed 12 pairs of division managers. The role of central manager for each pair was assumed by a research assistant to maintain consistency across pairs and treatments.[6,7]

In each of 20 experimental periods, each division manager first privately observed the expected ratio of output to input (the "p" ratio) for each of three projects. Then he/she submitted (either truthfully or otherwise) to the central manager a p-ratio for each project. Each project required 100 units of resource and the central manager only had 300 units available. Hence, only half (three out of six) of each period's proposed projects could be selected. Similar to Waller and Bishop (1990) and Chow et al. (1994a, 1995), the central manager allocated the firm's limited resources to maximize the total expected output, and had to do so strictly based on the division managers' communicated p-ratios for the period. This approach was known to all participants. They also knew that the central manager had no access to the true p-ratios before making the project funding decision, and that only the funded projects' true p-ratios would become known at the end of the period.

The use of 20 periods was aimed at overcoming the prior studies' potential lack of sufficient trials for subjects to understand the experimental setting and to develop their communication strategies.[8] The first 15 periods were designed for learning, and had their self-contained set of p-ratios. Periods 16-19 had their own set of p-ratios for hypothesis testing. Period 20 was dropped to control for end-period effects (e.g., a manager changing his/her communication strategy in the last period to take advantage of his/her paired manager's stable strategy).[9]

The subjects were paid cash based on their performance as computed under their assigned pay schemes. The translation rates between measured performance and cash were preset and known to each subject. These rates differed between the U.S. and Taiwanese subjects to allow for differences in local pay scales. For the U.S., the expected cash pay was \$.75 per experimental period under truthful communications.[10]

Procedure

Since running the experiment was highly labor intensive, only 4 or 6 subjects were scheduled for each time slot. In both countries, all subjects randomly scheduled for a given time slot were assigned to the same treatment. The experiment took about three hours and contained the following three steps:

Step One

When the subjects arrived, they were randomly assigned to a division manager position and directed to a room dedicated to that position. To limit the potential for tacit collusion (e.g., subjects coordinating their communications to yield the highest combined pay for each period, and splitting the total pay later), no subject was allowed to know who he/she was paired with in the experiment.

Upon arrival at the assigned room, each subject was given a packet containing the task instructions, a form that he/she could use to keep track of decisions and outcomes, and 20 sealed envelopes, one for each experimental period. Each envelope contained a communication form and the actual p-ratios for that period's three projects. The subjects were told not to open any of the materials until instructed to do so.

Step Two

The subjects read through the experimental instructions. These provided detailed explanations of the experimental task, the assigned pay scheme, and the order of events in each period. Then the subjects completed a set of numerical exercises to test their understanding of how alternate communication strategies may feed into the central manager's project selection decisions, and in turn how such decisions would affect their measured performance. Correct answers were provided at the end of each exercise.

Step Three

The subjects completed 20 experimental periods. Below, the procedure for the subjects assigned to the LPS scheme without face-to-face interactions (LPS) will first be explained. Then deviations for the subjects assigned to the Groves scheme and LPS with face-to-face interactions (LPS-FF) will be noted.

1. After privately observing his/her three actual p-ratios, each division manager wrote on his/her communication form for that period a p-ratio for each project to be reported to the central manager.
2. The central manager collected both division managers' communication forms and mechanistically selected the three projects (out of the combined six from both division managers) with the highest communicated p-ratios. (The subjects were aware that ties would be broken by flipping a coin.) Then he/she marked on each division manager's communication form the latter's project(s) selected for funding, and returned each form to the appropriate division manager.

Subjects assigned to the Groves scheme also received, at the end of each period, the communicated net output of their paired managers' funded project(s) for the period. This information was needed by each manager under the Groves scheme to compute his/her performance measure for the period.

For subjects assigned to LPS-FF, an additional event occurred at the beginning of each period, starting with period 2. Prior to communicating that period's p-ratios to the central manager, each division manager was separately visited by the latter. At this meeting, the division manager had to reveal to the central manager the true p-ratios for those of his/her projects that had been funded in the prior period (much like a comparison of actual vs. budgeted performance). Then the central manager made the following verbal statement. (The phrase in parentheses was included only if there was a deviation between a subject's actual and communicated p-ratios.)

> Last period, you had proposed three projects for funding from the company's limited pool of funds. (Now, it appears that you had mis-communicated the p-ratio(s) for the following funded project(s)....) It is important to note that I had relied on your projections to select the projects for funding allocations so as to maximize the profit for the company. It is your responsibility as well as mine to make sure that we achieve the company's financial goal. Now we are about to start the funding decisions for the next period. Please prepare your funding proposals so I can again allocate the company's limited funds between you and the other manager.

Then the central manager left each division manager to fill in his/her communication form in private, and returned to collect it later.[11]

At the end of the 20th period, the subjects completed a post-experiment questionnaire which contained several manipulation check questions. They were paid later, after their earnings had been verified.

RESULTS

Manipulation Checks

Responses to the exit questionnaire indicated that the subjects from both nations had high levels of task involvement and had correctly understood the information asymmetry between them and the central manager.[12] To gain some assurance that the two national samples did differ on individualism/collectivism and Confucian dynamism as assumed, an additional questionnaire was administered to the LPS-FF subjects on these cultural dimensions. Based on Hofstede's Scoring Guide (1982), the Chinese subjects' individualism index was -7.25 vs. 46.42 for the U.S. subjects. This directional difference is consistent with assumption. For Confucian dynamism, we selected six items from the Chinese Cultural Connection (1987) instrument which related to this cultural dimension: harmony with others, non-competitiveness, close friendships, solidarity with others, trustworthiness, and having a sense of shame (face saving). The 10-point response scale was anchored by 1 = "of no importance" and 10 = "of supreme importance." The mean Chinese responses were higher for all six items, with four of these differences being significant at $p = .05$. Specifically related to concern with face saving, the mean U.S. response of 6.17 was statistically significantly lower than the Chinese mean of 7.17.

Table 1. Number of Manager Pairs Reaching Steady State Communication Strategy by Period

Period	*1*	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*	*11*	*12*	*13*	*14*	*15*	*16*	*17*	*18*	*19*
U.S. Sample																			
LPS	0	0	2	1	1	2	2	0	1	0	0	0	0	0	0	3	0	0	0
Groves	0	1	0	2	3	2	1	1	0	0	0	0	0	0	0	2	0	0	0
LPS-FF	0	1	0	3	1	0	1	1	0	0	1	0	0	1	0	3	0	0	0
Chinese Sample																			
LPS	1	2	1	1	1	0	0	0	2	0	0	0	0	0	0	4	0	0	0
Groves	1	1	3	1	1	0	1	1	0	0	0	0	0	1	0	2	0	0	0
LPS-FF	0	0	6	1	1	0	1	0	1	0	0	0	1	0	0	1	0	0	0

DESCRIPTIVE STATISTICS

The means (standard deviations) of the division managers' cash earnings were as follows for the U.S. subjects: LPS: \$13.20 (\$4.22), LPS-FF: \$13.84 (\$1.96), and Groves: \$14.39 (\$1.75). After adjusting for local pay scale differences, the corresponding numbers for the Chinese subjects were: LPS: \$14.11 (\$2.57), LPS-FF: \$14.50 (\$2.25), and Groves: \$14.55 (\$0.44). The mean pay for each treatment did not differ significantly between the two national groups, and also appeared to be adequate (though not generous) for the length of the experimental session.

To assess whether 15 periods was sufficient for subject learning, each subject was asked to identify the period by which he/she had developed a consistent communication strategy. These self-reported data (Table 1) show that all manager pairs had developed a communication strategy by period 16—the start of our test periods. Table 1 also shows that while quite a few subject pairs reported having developed a stable communication strategy early in the experiment, 19 pairs did not attain this state until after period 10. While self-reported data like these admittedly are subject to error, they still provide some assurance that enough periods had been provided for subject learning.[13] And although it was feasible to use data from each pair's steady state periods for hypothesis testing (e.g., the data for periods 12-19 for a pair that had reached steady state in period 12), we elected to focus on periods 16-19 for two main reasons. One was that this conservative approach provides some protection against subject error in judging when they had developed a consistent reporting strategy. More important, since all subject pairs had faced, by design, the same four sets of p-ratio triads in periods 16-19 (cf fn. 9), their misrepresentations in these periods could be directly compared. Below, all of the statistics and test results are based on periods 16-19.

Following the approach of Waller and Bishop (1990), we constructed two misrepresentation measures for each communicated p-ratio. Absolute misrepresentation (AM) was the absolute value of the difference between the actual and communicated p-ratios. Relative misrepresentation (RM) measured the extent of misrepresentation out of the total amount possible. For no misrepresentation, RM = 0; for an overstatement, RM = AM/(2.0 - actual p-ratio); and for an understatement, RM = AM/(actual p-ratio - 1.0).

Table 2 presents selected distributional statistics for RM (Panel A) and AM (Panel B). Two patterns can be noted. First, for both national samples, the mean values of both AM

Table 2. Distributional Statistics for P-Ratio Misrepresentations

	U.S. Sample			*Chinese Sample*		
	LPS	*Groves*	*LPS-FF*	*LPS*	*Groves*	*LPS-FF*
Panel A: Relative Misrepresentations (RM) for Periods 16-19						
Mean	.636	.226	.309	.487	.162	.270
Std. dev.	.358	.275	.379	.391	.267	.320
Minimum	0	0	0	0	0	0
Maximum	1	1	1	1	1	1
Panel B: Absolute Misrepresentations (AM) for Periods 16-19						
Mean	.272	.075	.120	.169	.052	.086
Std. dev.	.224	.121	.184	.200	.082	.123
Minimum	0	0	0	0	0	0
Maximum	.89	.89	1	.92	.81	.74

and RM are higher under LPS than LPS-FF, with those under Groves being lowest. Second, both mean RM and AM are lower for the Chinese sample than its U.S. counterpart under each pay scheme. And as might be expected based on these patterns, RM and AM are highly and positively correlated (Pearson $r = .638$, $p<.000$). Since the results were qualitatively identical between RM and AM, only those based on RM are reported below.

HYPOTHESES TESTS

Test of H1

H1 stated the expectation that in the absence of face-to-face interactions with superiors, subordinate misrepresentations would be smaller for Chinese relative to U.S. nationals. This hypothesis was tested with an analysis of variance (ANOVA) using each national sample's data for the LPS and Groves cells. The dependent variable was RM, averaged over the three projects per period to yield four observations per manager.[14] The independent variables were national origin (Chinese, U.S.), pay scheme (LPS, Groves) and their interaction. The overall model was highly significant ($F = 53.14$, $p = .000$), as were the main effects due to nation and pay scheme (respectively, $F = 12.53$, 143.79; $p = .000$, $.000$). The interaction between nation and pay scheme was only marginally significant ($F = 3.10$, $p = .079$).

To further elucidate the nation main effect, t-tests for equality in means were conducted between nations for the same pay scheme. Consistent with H1, under both LPS and Groves, mean RM was significantly lower for the Chinese than for the U.S. sample (respectively, $t = 23.40$, 10.41; $p = .000$, $.000$).[15] Thus, H1 was supported.

Test of H2

H2 stated the expectation that Chinese subordinates would respond more than their U.S. counterparts to the presence of face-to-face interactions with superiors. The ANOVA to test this hypothesis used each national sample's data for the LPS and LPS-FF cells. RM was the dependent variable. The independent variables were national origin (Chinese, U.S.), face-to-face interaction (present, absent) and their interaction term.[16]

The overall model was highly significant ($F = 29.30$, $p = .000$). The main effects due to nation and face-to-face interaction were both highly significant (respectively, $F = 9.53$, 74.54; $p = .000$, $.000$). And in apparent conformity to expectation, the interaction term between nation and face-to-face interaction also was statistically significant ($F = 3.83$, $p = .05$).

Since H2 was predicated on concern with "face" having an impact on behavior, further analysis of this effect was conducted using the Chinese and U.S. subjects in the LPS-FF treatment. An ANOVA was performed using these subjects' RM as the dependent variable. The independent variables were national origin (Chinese, U.S.), these subjects' responses to the Chinese Cultural Connection (1987) item "having a sense of shame (face saving)," and their interaction. The model as a whole was significant ($F = 2.75$, $p = .044$). Neither the nation main effect nor its interaction with "face saving" was significant (respectively,

F = .008, .385; p = .93, .54), but the main effect due to "face saving" was significant (F = 7.29, p = .008). Furthermore, the pattern of mean RMs was consistent with the hypothesized effect of concern with face. Using the median observed value (6.0) to dichotomize each national sample into high vs. low concern for face, mean RM for the high-concern U.S. subjects was 0.21 vs. 0.36 for those with low concern. For the Chinese sample, mean RM for high-concern subjects was likewise lower than that for the low-concern subjects (0.23 vs. 0.33).

The pattern of cell means for the interaction between nation and presence/absence of face-to-face interaction was, however, opposite to that predicted. Whereas mean RM under LPS (i.e., the absence of face-to-face interactions) was significantly higher for the U.S. than for the Chinese sample (from H1: t = 23.40, p = .000), the two national samples' mean RMs were not significantly different under LPS-FF, when such interactions were present (t = 1.33, p<.185). In other words, rather than diverging further in the presence of face-to-face interactions, the two national samples' misrepresentations became more equal. This outcome was due to the U.S. subjects having a bigger reduction in mean RM between LPS and LPS-FF (.636 vs. .309; t = 10.36, p<.001) as compared to their Chinese counterparts (.487 vs. .270, t = 7.28, p<.001).

A possible explanation for the Chinese sample's smaller RM reduction is that it had a lower starting point (when face-to-face interactions were absent), such that it did not have as much misrepresentation to forego as its U.S. counterpart. To explore this possibility with the available (between-subjects) data, we deleted all foursomes of manager pairs (one pair from each of the four cells from crossing nation with LPS vs. LPS-FF) that had either zero, or the same low mean RM. Then we reran the tests for H2 using this truncated sample, and obtained qualitatively equivalent results. As with the full sample, under LPS and the absence of face-to-face interactions, mean RM was significantly higher for the U.S. than for the Chinese nationals (.77 vs. .58; t = 4.33, p = .000). And under LPS-FF, mean RM remained statistically insignificantly different between them (.40 vs. .34; t = 1.26, p = .21). This similarity of results between the full and truncated samples fails to provide support for the "floor effect" explanation.

SUMMARY AND DISCUSSION

Consistent with predictions based on individualism/collectivism and Confucian dynamism, when face-to-face interactions with superiors were absent, Chinese subjects misrepresented their private information to a smaller extent than U.S. subjects under the same pay scheme. Also consistent with concern for "face" affecting subordinate behavior, both U.S. and Chinese nationals had significantly lower levels of misrepresentations when such interactions were present. Within both national samples, the level of misrepresentation was negatively related to the degree of concern for face.

The findings, however, were contrary to the expectation that Chinese nationals would respond more to the presence of face-to-face interactions. The decrease in mean misrepresentations between the absence vs. presence of face-to-face interactions was greater, rather than smaller, for U.S. than for Chinese nationals, with the mean misrepresentation levels being not significantly different between the two national samples when face-to-face interactions were present. An exploratory test did not indicate that this result was due to the Chinese nationals having started from a lower level of misrepresentations when face-to-face interactions were absent.

Overall, these experimental findings are consistent with national culture having an important effect on subordinates' communication truthfulness to superiors. They also reveal that the way effects arise is more complex than had been assumed. Specifically, the unexpected greater effect of face-to-face interactions on U.S. vs. Chinese nationals suggests the need to further understand the nature of concern for "face", as well as how "face"-related considerations arise in different national settings. More important, while this study has extended experimental research to a richer environment by incorporating interpersonal interactions and cross-cultural considerations, it still falls far short of capturing the complex setting in which superiors and subordinates interact. Given the importance of information sharing within organizations and the increasing globalization of economic activities, further work to validate and extend this study is highly desirable. In particular, this study has examined only two pay schemes and national cultures. And within each culture, the subjects had come from only one institution. Expanding each of these dimensions can shed light on the findings' robustness, as well as illuminate how components of each dimension independently and interactively affect subordinate communication behavior. For example, including students from other universities can help to assess whether the findings are institution-specific, while engaging managers from real world organizations can shed light on the findings' generalizability to practice. Relating to individualism/collectivism and Confucian dynamism, since they were hypothesized to affect behavior in the same direction, it was not possible to differentiate between them or to assess the relative sizes of their impacts. By designing settings that implicate these (and other) cultural dimensions in different directions, more insight can be obtained into how national culture affects people's behavior in employment settings.

Beyond studying upward communications by subordinates, it is desirable to explore the determinants and effects of horizontal and downward communications within organizations. Furthermore, organizations' concerns probably extend beyond communication truthfulness to include such factors as employee work effort, learning and improvement, teamwork, risk taking, short vs. long term tradeoffs, satisfaction, and job stress. Thus, concurrent with enriching the context being studied, there is room for considering a fuller set of factors in the objective function.

Finally, this study has used a laboratory experiment. While this approach has areas of strength (e.g., control, internal validity, replicability), it also has weaknesses (e.g., potential lack of external validity) (Birnberg et al., 1990). Given the importance of the issues being considered here, expanding the scope of investigation to include multiple methods (e.g., surveys, field studies, archival analysis) would be very desirable.

Acknowledgments: The authors are indebted to the anonymous reviewer for many constructive suggestions, and to the C. F. Koo Educational and Cultural Foundation for its financial support.

NOTES

1. Analytical research has suggested many truth-inducing pay schemes beyond that of Groves (e.g., Banker & Datar, 1992; Kanodia, 1993; Osband & Reichelstein, 1985). However, none of these schemes has received nearly as much attention and empirical testing as the Groves

scheme. We limit our discussion to the latter because it has been tested by all three related prior studies.

Under the Groves scheme, a manager's performance measure is a function of his/her actual output and other managers' projected output for the levels of resources provided to them. Groves and Loeb (1979) have analytically demonstrated that, in a one-period setting and without collusion among risk-neutral subordinates, the dominant strategy for each subordinate under the Groves scheme is to truthfully communicate his/her private information. In contrast, Waller and Bishop (1990) and Chow et al. (1994a) have shown that the LPS scheme motivates managers to overstate their projects' expected profitability.

2. In addition, Waller and Bishop (1990) found that an extreme form of "unit-profit-plus-penalty" scheme—under which pay was reduced to zero for any deviation between actual performance and budget—also reduced subordinate misrepresentations. Chow et al. (1995) found that combining the LPS scheme with probabilistic audits was as effective as the Groves scheme at deterring subordinate misrepresentations.
3. Since Hofstede's taxonomy has been so often used in accounting research, a detailed description of the five cultural dimensions is omitted. Interested readers can obtain such descriptions from, for example, Harrison et al. (1994) and Merchant et al. (1995).
4. To the extent that our study focuses on superior-subordinate relationships, a case can be made that the power distance cultural dimension also may be relevant. In an employment setting, this cultural dimension relates to the degree to which subordinates are willing to accept an inequality of power between them and their superiors and to follow directives given to them by the latter, including truthful reporting of their private information (Merchant et al., 1995). According to Hofstede (1980, 1991), Chinese nationals in Taiwan are higher in power distance than U.S. nationals (58 vs. 40). This relative placement of the two cultures is consistent with other studies of Chinese-based vs. Western cultures (e.g., Harrison, 1992, 1993; Harrison et al., 1994; O'Connor, 1995). However, Hofstede (1980) also has cautioned that based on the observed distribution of the cultural dimensions across countries in his sample, only cross-national differences of 20 points or more should be considered significant. Based on his admonition, and the fact that the superiors in our experiment had no direct authority over the subordinates beyond selecting projects for funding, we consider the role of power distance to be minimal in our study. We also omitted uncertainty avoidance and masculinity because our experimental task and design did not include manipulations (e.g., the extensiveness of standardized operating procedures and the degree of challenge in the performance standard) which implicated these cultural dimensions.
5. The findings of Young's (1985) study did suggest that the subjects' misrepresentation behavior (creation of budgetary slack) was affected by social concerns. However, it did not directly test this effect as the nature of the superior-subordinate relationship was not varied across treatments.
6. Both the experimental materials and the conduct of the experiment in Taiwan were in Chinese. The English materials were first translated into Chinese by one of the bilingual members of the research team. Then it was independently evaluated by another bilingual team member for adherence to the original. Only minor deviations had to be resolved through discussion.
7. Two research assistants were used in each national setting. All were male graduate students. Each assistant was trained for up to two hours before assuming his role in the experiment.
8. Waller and Bishop (1990) used a total of 10 experimental periods, while Chow et al. (1994a, 1995) used nine periods. We used double the number of periods of Waller and Bishop because of their observation that the number of periods in their experiment may have been insufficient for subjects to fully understand the properties of their pay schemes for developing their communication strategies, especially under the Groves scheme.
9. Separate sets of p-ratio triads were developed for periods 1–15 vs. 16–19 as follows. First, 60 p-ratios were randomly generated using a uniform distribution with a range of 1.0 to 2.0. Incre-

ments of .01 were used. These p-ratios were randomly grouped into 20 sets of three. Then, a duplicate set of these 20 triads was created and randomly matched to the original set to yield 20 pairs of p-ratio triads. These 20 pairs were divided into three subsets with 15, four, and one member(s), respectively. The subset of 15 pairs was used in periods 1–15 in 12 random orders, one per manager pair. (Each manager got one of the two p-ratio triads in each set.) The subset of four p-ratio triads was used in periods 16–19, and the final subset was used in period 20.

10. Under the LPS and LPS-FF treatments, the translation rate for the U.S. subjects was $1 in cash for each 144 units of performance measure. The cash pay to the Chinese subjects was at 60 percent of this level to adjust for differences between accounting graduates' beginning salaries in the U.S. and Taiwan. Because of the way the performance measure is calculated under the Groves scheme (see Waller & Bishop, 1990; Chow et al., 1994a), its scale was double that of the LPS scheme given the parameter values in our experiment. To preserve parity in expected cash pay across treatments, the translation rate between performance units and cash for the Groves subjects was 288 to $1. We acknowledge that these different translation rates may bias the results (against the Groves scheme in our case). However, the alternative of using the same translation rate would create an opposite bias by making the cash gain per unit of misrepresentation higher under Groves than the LPS scheme. While the preceding caveat has to be borne in mind, note that despite the potential bias against the Groves scheme, misrepresentations still were lower under it than under LPS.
11. This added verbal exchange did not alter the arrangement that the central manager made each period's project selections strictly based on the two division managers' communicated p-ratios for the period.
12. The question on task involvement was "To what extent did you make your decisions as if you were actually involved in a real business situation?" The information asymmetry question was "How much did the central manager know about your actual p-ratios right after sending your messages in each round?" The 10-point response scale for each question was anchored with 1 = "not at all" and 10 = "totally." The mean responses from both national samples were substantially above and below the midpoint, respectively, for the two questions.
13. The data in Table 1 suggest that if we had followed the approach of Waller and Bishop (1990) (which used all 10 periods' data) or Chow et al. (1994a, 1995) (which alternately allowed 3 or 5 learning periods), then over half of the communicated p-ratios used in the statistical analyses would not have reflected a steady state communication strategy.
14. We did not treat each reported p-ratio as an independent observation because the managers' decisions regarding their numerical values are likely to be correlated. For example, if one project has a very high true p-ratio, a manager probably would not overstate a less profitable project's p-ratio to the extent of causing it to be funded over the former. We also performed the same set of analyses by aggregating each manager's relative misrepresentations over all four test periods to yield one observation per manager. The results were not qualitatively different.
15. For all reported t-test results, the results of non-parametric Mann Whitney U-tests were qualitatively identical.
16. Note that our test focused on the levels of misrepresentations under LPS and LPS-FF, rather than the difference between them. This is because the face-to-face interaction treatment was between, not within, subjects.

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The International
Journal of
Accounting

Earnings Management in Japanese Companies

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Key Words: Earnings management; Cross-cultural; Japanese accounting; International accounting

Abstract: *This study examines choices of accounting accruals using a large sample of Japanese companies, which operate in an environment that is generally regarded as being rather different from the United States. We find that debt-to-equity and asset hypotheses hold in the Japanese environment only for the years after the market crash of 1990. Prior to the crash, the number of employees seems to capture the political (or economic) pressure. Similar to their U.S. counterparts, managers of Japanese companies chose income-increasing accounting accruals to increase their bonus and increase the amount of outside funding. The ownership effect was also observed on the choice of accounting accruals. Those companies that have higher degrees of ownerships by trust companies and stock brokers have incentives to choose income-increasing accruals to provide a more positive picture of the firm. Since this incentive does not exist for ownership by financial institutions, the opposite effect was observed. The effect of ownership by individual investors, management, or corporations on the choice of income-increasing accruals was opposite to that hypothesized in 1989. These opposite-to-expected effects were not present after the Japanese market crash. The stock market crash of 1990 appears to have had a profound effect on the choices of accounting accruals.*

INTRODUCTION

This study addresses the question of which factors influence the accounting accruals choices that firm managers make in Japan. Although Japan is the second largest economy in the world and Japanese firms operate in a global market, the Japanese socio/economic and institutional environments differ significantly in many aspects from those of the United States. On an a priori basis, it is not clear how well the contracting theory holds for Japanese firms. Various other forces might be at work to influence accounting accruals choices for Japanese firms. Based on empirical analysis of data for a large sample of Japanese com-

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The International Journal of Accounting, Vol. 33, No. 3, pp. 313-334 **ISSN: 0020-7063.**

panies, we provide evidence that some explanatory variables affect choices of accounting accruals differently as compared to the findings from research on U.S. companies.

Our results indicate that on average, the debt hypothesis does not hold in the Japanese environment. On the other hand, the political cost hypothesis holds when total assets or the number of employees is used as the proxy for firm size. Similar to their U.S. counterparts, managers of Japanese companies chose income-increasing accounting accruals to increase their bonuses and to increase the amount of outside funding. Income-increasing choices were positively associated with the ownership of individual investors and trust companies, but negatively associated with the ownership by other corporations and financial institutions. The Market crash of 1990, which resulted in changes in economic factors, had an identifiable effect on the choices of accounting accruals.

The paper is organized as follows. The paper first provides a brief review of the economic environment in Japan that pertains to the choice of accounting methods. This is followed by a description of the variables and the empirical models that are used to test the theory. Sample selection, data sources, and empirical results are presented in order and followed by concluding remarks.

ECONOMIC ENVIRONMENT IN JAPAN

In this section, we discuss briefly two major aspects of the economic environment that are unique to Japan and pertinent to our discussion: (1) the Japanese accounting framework and (2) the institution of industrial groups (or *keiretsu*). Interestingly, both aspects work in the same direction with respect to managerial incentives to increase reported earnings either by increasing the cost of or by decreasing the benefit from income-increasing earnings management. In particular, accounting requirements increase the cost of reporting a higher income, whereas the practice of industrial groupings reduces the need for managers to increase reported earnings. The close relationship between firms and banks allows managers to take a long-term perspective without worrying about short-term corporate performance. This situation does not imply, however, that Japanese managers have no incentive or desire to look more profitable. Clearly, *ceteris paribus*, managers look more competent with a higher reported income.

Japanese Accounting

Japanese accounting practices are influenced by two tracks. In the first track, all joint stock corporations are subject to the accounting and financial reporting requirements of the Japanese Commercial Code, which is based on the German code. The second track is covered by the Securities and Exchange Law, which is based on that of the United States. While most accounting policies are similar, one important difference is the much larger role played by the tax laws in Japan as compared to the U.S. (Choi and Hiramatsu, 1987).

Corporation Tax Law and its related regulations specify the methods to be used in recording various expenses and allowances in order for them to be tax deductible. Given that the marginal tax rate can exceed 50 percent for many large corporations, tax considerations are likely to be important in accounting choice. For example, companies tend to follow maximum depreciation schedules for both financial and tax purposes. In the U.S. on the other hand, temporary differences between the tax-related statements and other external reports are permitted. In addition, there are also various requirements and allowances for reserves in Japan. The financial reporting is not, however, exactly similar to tax reports. While the allowances and reserves must be accounted for in the financial statements to be allowed as tax deductions, there are a number of items that reflect permanent or temporary differences between taxable and pretax income shown in the financial statements. For example, entertainment expenses and the bonuses paid to directors, in most cases, are not tax deductible in Japan (Price Waterhouse, 1993, p. 99).

In sum, although there might be incentives for Japanese managers to manipulate reported earnings to appear more profitable, the cost of the manipulation is much higher for Japanese managers due to a high level of conformity between financial reporting and tax reporting. To the extent that tax accounting and financial reporting have greater differences in the U.S., managers are subject to smaller opportunity costs.

Industrial Groups

An important feature of the Japanese industrial structure is the existence of *keiretsu* (industrial groups). It is estimated that as much as 25 percent of the Japanese GNP is produced by the firms that belong to the six largest keiretsu groups (Mitsui, Mitsubishi, Sumitomo, Fuji, Sanwa, and Dai-ichi Kangyo). These six, as well as other keiretsu groups, are loosely connected through a main bank (or main banks) referred to as the *main bank system*. Typically, large firms in each group own shares of other firms in the group. Cross-share holding is in part an anti-takeover device, but also represents shares that are not bought and sold for short-term capital gains, but rather for long-term business relationships (Phan and Yoshikawa, 1996).

Close relationships among firms and banks within a keiretsu group result in better information sharing within each group. For example, the bank's intimate involvement in the strategic and financial planning activities of the firm confers a unique access to critical information that other investors do not have (Sohn, 1994). In addition, information gathering is also facilitated by such keiretsu-affiliated networks as interlocking directorates (Gerlach, 1992) and regular meetings of presidents. In one study, almost 70 percent of the 'outside' directors of the 100 Japanese companies sampled were from other companies within the keiretsu (McKinnon, 1984). These networks allow the bank, as a governance institution, to screen and monitor management in the same way that credit-rating or securities analysis agencies do under the U.S. capital market system and to proactively respond rather than react to managerial investment decisions. Kaplan and Minton (1994) found that Japanese banks tend to send their directors to help companies with financial and earnings problems.

The much more active role played by banks in the Japanese capital market, coupled with the significant number of shares owned by cross-share holders, is expected to reduce the need for disclosure of financial information to the equity market. For example, individual investors hold 49 percent of total outstanding shares in the United States, but they hold only 24 percent in Japan. Banks, other financial institutions, and non-financial firms hold 47 percent of total outstanding shares in Japan. Thus, roughly half of the outstanding shares might be held by the so called stable shareholders.[1]

Traditionally, Japanese firms relied heavily on debt rather than equity as the major source of capital. The typical debt-ratio in Japanese firms has been in excess of 80 percent (McKinnon, 1984). Coupled with the fact that a significant portion of shares are owned by banks and other affiliate corporations, the resulting ownership structure is more concentrated than that in the U.S. and other equity-oriented countries. Thus, the financial accounting information is oriented toward the needs of other corporations, financial institutions, and the government rather than the individual stockholder (Evans, Taylor and Holzmann, 1994; Mueller, Gernon and Meek, 1994).

Furthermore, since Japanese corporations obtain substantial funds from their main bank and other affiliate banks, the level of competition for resources in the capital market is less for large Japanese companies. In sum, the institution of industrial groups allows the management of member firms to take long-term perspectives (due to cross-share holding), provides opportunities for private information sharing with important financial investors (banks and other corporations), and reduces the need to disclose information to the investors that are more short-term oriented.

A discussion of two more features that are specific to Japan is in order: (1) corporate governance practice and (2) the role of unions. Until the most recent revision of the Commercial Code in 1993, Japanese boards rarely paid much attention to their fiduciary duties simply because shareholders were not very active. Pre-1993 board structures emphasized stakeholder participation, which meant that boards with outsiders (excluding bank executives) were uncommon. With no competitive market for outside directors, board members were usually selected from the ranks of employees. This virtual merging of management and board also meant that boards were seldom independent entities and thus often served at the behest of management.[2] Due to the pattern of institutional cross equity holdings and an insider board structure, the market for corporate control is undeveloped in Japan. Takeovers (as a means of corporate control) are actively resisted because they are considered a form of robbery in the Japanese culture. Stock price is rarely an efficient indicator of Japanese corporate performance since the cross holding of equity is meant to stabilize trading relationships and therefore a relatively low volume of stocks is actually traded. The unreliability of stock prices as an information source reduces the ability of an acquirer to evaluate potential targets (Phan and Yoshikawa, 1996). In terms of accounting method choice, this factor is expected to put less pressure on managers to use income-increasing accruals.

Finally, we note that there might be a strong rationale for Japanese management to appear less profitable when negotiating with labor unions. Typically, labor unions are organized within each company, with possible affiliation with national unions. Each enterprise union negotiates with its employer. Both the management and the union are usually aware of the fact they are in the same boat. However, labor negotiations can be quite antagonistic and confrontational. In such situations, the management would find it easier to extract concessions from unions if the company had lower reported earnings.

VARIABLES AND MODEL SPECIFICATION

Dependent Variable Specification: Measuring Discretionary Accruals

Most of the effort in testing earnings management behavior has focused on explaining accounting choices by examining the relationship between an accounting choice variable and a number of explanatory variables. In defining the accounting choice variable, three different approaches have been most widely used: (1) single procedure (e.g., Hagerman and Zmijewski, 1979), (2) sets of procedures (e.g., Zmijewski and Hagerman, 1981; Press and Weintrop, 1990, Inoue and Thomas, 1996), (3) and net accruals (e.g., Healy, 1985; DeAngelo, 1988). All three definitions of accounting choice have been criticized as being poorly specified, and consequently, they may have contributed to the low power of the tests (Watts and Zimmerman, 1990).

Jones (1991) developed a model to capture the discretionary component of total accruals. Jones defines the total accruals as "the change in noncash working capital before income taxes payable less total depreciation expense" (page 207). To relax the assumption that the changes in total accruals are due solely to changes in discretionary accruals, she uses an expectation model for total accruals to control for changes in the economic circumstances of each firm. This expectation model uses an estimation period for each firm that ranges between 14 and 32 years. Dechow, Sloan, and Sweeney (1995) assess the relative performance of five alternative discretionary accrual models (Healy; DeAngelo; Jones; modified Jones; and industry) at detecting earnings management. They conclude, based on four sets of power tests, that a modified version of the Jones (1991) model provides the most powerful tests of earnings management. Unfortunately, the long historical data necessary to establish the expectation model is not available in our data base and we could not use the Jones model.[3] Pourjalali and Hansen (1996) developed a model that measures the amount of manipulation in the discretionary accruals. Because this model is not directly related to a specific set of acceptable accounting methods and the expected values could be calculated using the items that are available in the NIKKEI data base, we used a modified version of this model to measure the manipulated amount of accruals. The modified model and its assumptions are discussed below.

The Discretionary Amount of Accrual Model

The accounting choice variable should measure the income effect of all discretionary choices made by a manager for a given period. Let A_t be the total income effect of the discretionary choices for period t. Since discretionary choices can affect revenues, variable expenses, and fixed expenses, A_t can be expressed as the sum of three discretionary sub-components:

$$A_t = A_{rt} + A_{vt} + A_{ft}$$

where

A_{rt} = the discretionary revenue effect
A_{vt} = the discretionary variable accrual effect
A_{ft} = the discretionary fixed accrual effect

Assessing each sub-component effect provides a measure for the total discretionary effect. The following assumptions are needed to build the desired measurement model:

1. *Receivables Assumption.* The ratio of true accounts receivables to true sales revenues can be measured using the average of prior period balances for these accounts. "True" is defined as the amount that would be reported without manipulation..
2. *Cost Behavior Assumption.* Cost behavior can be described as a linear function of reported revenues. This function can be measured using the average of prior period balances for costs (operating expenses) and sales revenues.
3. *Fixed Expense Assumption.* The only significant fixed expenses are depreciation and amortization.[4] Any changes in assessing these expenses and their effects on income must be disclosed.[5]

Following the first assumption, the true ratio for accounts receivables to revenue produces the expected amount of non-manipulated revenue for the period. The difference between the expected and the reported amount of revenue is the discretionary revenue effect (A_{rt}) on reported income for period t. Details for this calculation are provided in Appendix A. The second assumption and the expected amount of non-manipulated revenue (see above) can be used to estimate expected variable accrued expenses. The difference between the expected and the reported amounts of variable accrued expenses is the discretionary variable expenses effect (A_{vt}) on the reported income for period t. Details for this calculation are also provided in Appendix A. Adding A_{rt} , A_{vt} and A_{ft} provides total income effect of discretionary choices for period t (A_t); this is the dependent variable used in this study.

Specification of Explanatory Variables

A frequent problem with international accounting research is data availability and comparability. Although prior US-based research has identified a large set of variables that influence accounting method choices, this study is limited to the variables whose disclosure is required in Japan (e.g., total compensation data for directors are not required, although total bonuses are) and available through the NIKKEI data base. An important set of missing variables in this study is the one related to management compensation plans. This limitation can reduce the power of the bonus hypothesis test. The explanatory variables considered in this study are categorized as follows:

1. Debt Covenants
2. Political Cost/Public Exposure Variables
3. Bonus Variable
4. Internal/External Financing
5. Ownership
6. Effect of the 1990s Stock Market Crash

Debt Covenants

Most accounting-choice research has used the debt-to-equity ratio as a surrogate for a firm's closeness to debt covenant violations and found that the higher the debt-to-equity ratio, the more income-increasing accounting methods managers choose. Results of Duke and Hunt (1990) suggest that the debt-to-equity ratio is a good surrogate for the closeness to or existence of debt covenant restrictions for over 60 percent of restrictions that relate to retained earnings, working capital, and net tangible assets (p. 56). Thus, as the debt-to-equity ratio increases, income-increasing activity is expected; that is, a positive association is predicted.

Even though the debt ratio may be a good proxy for measuring closeness to debt covenants, there is no compelling reason to believe that the closeness to debt covenants will influence the managers in Japan to choose to increase accruals. As discussed earlier, one difference between debt in the U.S. and in Japan is the source. Most large U.S. corporations borrow through the issuance of long-term bonds, while most Japanese corporations borrow money from banks. On average, Japanese companies have a higher debt-to-equity ratio than the U.S. companies. This higher rate does not necessarily mean that the firm is close to debt covenant violations. In Japan, the majority of debt and equity holders function as the governance institution for client firms (Phan and Yoshikawa, 1996). In times of financial distress, Japanese banks and other members of keiretsu provide additional support or send their directors to oversee operations instead of pushing the firms into bankruptcy (Hoshi et al., 1991). The presence of a main bank within the keiretsu and stable shareholders are usually attributed as one of the important reasons why Japanese managers can afford to take a long-term perspective without worrying about short-term corporate performance. Given this situation, the debt covenant hypothesis may not hold the same explanatory power for Japanese companies' accounting choices. The following hypothesis is suggested with the expectation that it might not hold for Japanese companies to the same extent as for American companies:

H1: The larger the Japanese firm's debt/equity ratio, the more the manager is expected to choose income-increasing accruals.

Political Cost/Public Exposure Variables

Past studies often used size (measured by total assets) as a proxy for political sensitivity. We do not expect the same relation to hold in Japan. The Japanese economic climate is friendlier to large businesses than that in the United States. The Japanese government has not been as concerned with anti-trust regulation as has the United States. One possible reason for this difference in attitudes is that the Japanese government focuses on the competitiveness of Japanese companies in the global market, while U.S. authorities have largely focused on the domestic market when measuring market dominance. Moreover, the size variable may be a proxy for effects other than political sensitivity. For example, the operating characteristics of smaller firms may be significantly different from those of larger firms (e.g., greater default risk). Thus, it seems possible that accounting accrual behavior may differ based on the size of the firm because of factors other than political sensitivity.

In addition to size, therefore, a more direct measure of political sensitivity is needed. One possible proxy for political sensitivity is the number of employees, since they are one of the political groups for each company (i.e., the enterprise union). Given the well-known Japanese emphasis on collective and group achievement, one may suggest that employees do not have the same incentives to impose political pressure on their companies as do employees of U.S. firms. Moreover, since the collective bargaining takes place at the enterprise level and workers are typically paid a bonus based on the performance of the company, the management of Japanese companies may have incentives to reduce reported income by choosing income-decreasing accruals to weaken the bargaining position of their unions. The following hypotheses are suggested here to capture the effect of size and number of employees on the choice of accounting accruals. We do not expect that the size hypothesis will be supported in Japan.

H2: The larger the Japanese company, the more likely managers are to choose income-decreasing accruals.

H3: The more employees that a Japanese company has, the more managers are expected to choose income-decreasing accruals.

Because conformity between financial reporting and tax reporting is required in the Japanese environment, management may change accounting accruals to minimize the company's taxes. As mentioned previously, since the same depreciation methods are required for tax and financial purposes, depreciation expense cannot be manipulated for tax purposes only. The influence of tax on other choices of accounting accruals can be related to the income tax rates. The higher the rate, the more beneficial income-decreasing depreciation methods would be. Since it is not possible to determine the "true" marginal tax rate (i.e., the marginal tax rate without earnings management), we use an average effective tax rate based on actual tax liability and income. To adjust for the benefit from depreciation expenses, we calculated the effective tax rate as the ratio of "tax paid and accrued" to the income before taxes and depreciation. The test of this argument about depreciation as well as any other accruals is incorporated in the following hypothesis:

H4: The higher the tax rates, the more Japanese managers are expected to choose income-decreasing accruals.

Bonus Variable

To test the bonus hypothesis, most studies have used a zero-one bonus effect variable. This simplistic approach ignores the details of bonus plans as well as the effect of total compensation on accounting choice. Healy (1985), for example, has shown that the details of bonus plans are significant. While the details of the compensation plans in Japan are not readily available, current literature suggests that the bonuses are based on operating income, ordinary income, or the differences between actual and budgeted items (Inoue and Thomas, 1996). Since the budgeted items are not disclosed, we can only look at the income variables. Thus, we expect to find a direct relationship between the management bonus and choices of income-increasing accruals. Mangers would choose increase-increasing accruals in an expectation of increasing their bonus. The following hypothesis will be tested:

H5: The higher the amount of management bonus for the period, the more likely Japanese management is to have chosen income-increasing accruals.

Since the only information on the management bonus plans is the total amount of bonus paid, this amount will be used to test this hypothesis.

Internal/External Financing

In addition to the high degree of reserves that Japanese corporations are legally required to maintain, most companies are able to appropriate a considerable amount of their retained earnings to reduce the earnings available for dividend payments, hence to generate internal financing. This practice is easily implemented in the Japanese environment since companies are heavily owned by other corporations and financial institutions that are interested in long-term rather than short-term returns. Although the debt covenant variable (debt-to-equity ratio) captures the effect of the financial dependency on outside sources, this variable ignores an internal source of financing: the appropriation of retained earnings. Once appropriated, the retained earnings cannot be used for dividend payments. Similar to the debt covenant hypothesis, managers of firms that need external financing are more likely to use discretionary accounting accruals to present a better picture of the firm. The following hypothesis is tested:

H6: The more a Japanese firm needs external financing, the more managers are expected to select income-increasing accruals.

The high degree of appropriations of earnings (as compared to total net assets) signals that the firm has high internal financing or low external financing. Clearly, a negative relationship exists between the internal and external financing. Since data are available to calculate internal financing (ratio of Appropriated Retained Earnings to Net Assets), we will use this ratio to test the above hypothesis with an expectation that there will be a negative relationship between internal financing and income-increasing choices of accounting accruals (opposite to the hypothesized sign in the case of external financing).

Ownership

As previously mentioned, the ownership structure of Japanese companies is different from that of their counterparts in the U.S. A larger portion of the equity of companies in Japan is held by financial institutions, securities brokers, other corporations, and investment trusts. We develop four hypotheses to examine the effect on earnings management from ownership by (1) individual investors, (2) the management, (3) securities brokers and investment trusts, (4) other corporations, and (5) other financial institutions. Although all these investors are "owners" of companies, the horizon over which these investors hold their share ownership might vary significantly. In general, individual investors, securities brokers, and investment trusts are expected to have a shorter horizon than management, financial institutions, and corporate cross-share holders.

Ownership by Individual Investors

U.S. companies are expected to have strong incentives to provide a more positive picture of the firm to their most important source of capital, individual investors; therefore they choose accruals to either smooth or increase income. Individual investors hold on average 49 percent of total outstanding shares in the United States, whereas they hold only 24 percent in Japan. Since individual investors play a less significant role, Japanese companies, on average, might not have the same incentive to paint a more positive picture of the company. Nevertheless, at the margin, as individual ownership increases, Japanese companies are expected to try to provide a better picture. The following states this hypothesis.

H7: The higher the degree of individual investors in the ownership, the more Japanese managers are expected to choose income-increasing accruals.

Ownership by the Management

Research has revealed that manager-controlled firms and owner-controlled firms have different goals. One way these differences manifest themselves is through the choice of accounting methods (e.g., Hunt, 1985 and Dhaliwal et al., 1982). Thus, we hypothesize that the degree of managerial control affects accounting choices.

One possible measure of managerial control is the percentage ownership of shares by the management. As ownership by management increases, managerial control increases. In the U.S. environment, management has at least two incentives to choose income-increasing accruals. First, income-increasing methods present a more favorable financial picture and may help prevent a takeover. Managers' resistance to takeovers is explained by the fact that they often lose their jobs or perquisites (Azariadis and Stiglitz, 1983). Second, accounting-based bonus schemes are more likely to be found in manager-controlled firms. In the U.S. environment, Pourjalali and Hansen (1996) provide evidence that as managerial control increases (ownership by management decreases), income-increasing activities increase.

While Japanese managers are rarely worried about take-overs, their bonus is based on only current income or some items derived using current income. Thus, we suggest that while managers in Japan would choose income-increasing accounting accruals to increase their bonuses, the choice is affected by their degree of ownership in the company. The managers of Japanese firms that have a lower degree of ownership in their companies might choose income-increasing accruals to increase their wealth through accounting numbers more than those managers who have a higher degree of ownership in their companies. The following hypothesis tests this conjecture:

H8: The lower the degree of ownership by the management, the more the Japanese managers are expected to choose income-increasing accruals.

Ownership by Securities Brokers and Investment Trusts

The final ownership hypothesis is related to the effect of the investment by securities brokers and investment trusts. Both these groups have a short-term return perspective (versus investments by other corporations and financial institutions). As a result, we expect a positive relationship between the choice of income-increasing accounting accruals and the degree of ownership of these groups of investors. The following hypothesis is tested:

H9: The higher the degree of ownership by securities brokers and investment trusts, the more the Japanese managers are expected to choose income-increasing accruals.

Ownership by Other Corporations and Financial Institutions

Relative to the U.S., the environment in Japan is characterized by very large banks that provide a significant amount of the capital necessary for the corporations. Moreover, many firms are owned jointly and mutually by other firms and organized into keiretsu. Since these organizations are more interested in long-term benefits from their investments, the Japanese companies do not have strong incentives to increase their income by choosing income-increasing accruals (Phan and Yoshikawa, 1996). On the contrary, they have incentives to choose income-decreasing accruals in an attempt to provide long-term benefits such as minimization of tax payments. The following hypothesis tests this theory:

H10: The higher the degree of ownership by other corporations and financial institutions, the more the Japanese managers are expected to choose income-decreasing accruals.

The 1990 Stock Market Crash

After the Plaza Accord of 1985, the government of Japan let the value of the yen rise. While this action resulted in a decrease in exports (and an increase in imports), it also resulted in an increase in new investment and an increase in Japan's stock prices. The market capitalization of stocks on the Tokyo Stock Exchange in 1990 was 4.5 times the value in 1986.[6] In 1989, the government, noticing stock price increases and problems in the financial system, launched various new policy measures to rectify the situation. For example, during the first week of 1990, the government increased interest rates. This action, among other factors, triggered the market crash of 1990, which resulted in a 51% reduction in stock prices (Scott and Wellons, 1996). The government intervened by actions such as:

- Pouring pension funds cash into the market
- Creating a Securities and Exchange Surveillance Commission-SESC (1992)
- Creating a Cooperative Credit Purchasing Company (1992)
- Accepting interest lost as a deductible tax item
- Advising no rapid write-off for bad debt
- Not requiring companies to mark to market Fixed Assets, Investment in Stocks (although the market values depreciated after the market crash).

Since the economic environment has undergone a major change, we must consider the possibility that the managers of Japanese companies had different incentives for earnings management in years prior to 1991 (before the stock market crash) from the incentives following 1990. For this reason, the test results are provided for both before and after the Japanese market crash.

Table 1. Sample sizes used in the study

	1989	*1990*	*1991*	*1992*	*1989–1992 (Company-Year)*
Sample size before deletion of those with missing data	1440	1440	1440	1440	5760
Companies with missing data	874	803	785	845	3307
Remaining companies	566	637	655	595	2453

SAMPLE AND DATA

The population includes 1440 companies for which data were available through the NIKKEI Databank Bureau. The data we use are based on parent-only rather than on consolidated financial statements. More detailed data are available on a parent-only basis (e.g., the composition of ownership), and parent-only financial statements are traditionally considered the primary financial statements in Japan (Lowe 1990). In particular, tax liability is calculated according to parent-only financial results. All firms for which we could get data on the necessary variables for the years 1989, 1990, 1991, or 1992 were included in the sample. Depending on the year , different numbers of companies were deleted because of missing variables. Table 1 provides a summary of the sample of companies in each of the four years.

RESULTS OF THE STUDY

Table 2 provides the descriptive statistics for all the variables included in the study. As this table indicates, the mean for most of the variables did not substantially change during the four-year period under study; however, it should be noted that the percentage of shares held by securities brokers steadily decreased, while the percentage of shares held by individual investors increased in 1991 and 1992. On average, companies continued to grow with their average total assets increasing almost 18% during the four year period. The average tax rate was the lowest in 1991, the year following the stock market crash, and internal financing (FIN) increased by almost 20% from 1989 to 1992.

Each hypothesis was tested in two different ways: by company-year (pooled) and by calendar years. The ordinary least squares (OLS) analysis was used.

Company-Year Results

Table 3 reports the results for the company-year (the entire period) analysis. As this table indicates, all of the significant variables, except the individual and corporate ownership variables, had the signs suggested by the hypotheses. One of the interesting findings is that, as expected, the debt-to-equity variable is not significant, although this variable has constantly been used to explain income-increasing accounting accrual choices in the United States. We used total assets and the number of employees as alternative measures of political cost and found negative associations for both variables. The total assets variable is significant despite the expectation that it would not be important in the Japanese environment.

Table 2. Descriptive Statistics for Variables that were Included in the Model

	Mean (Std Dev)			
Variable	*1989*	*1990*	*1991*	*1992*
DTOE	2.711084	2.748266	2.767377	2.652559
	(3.861)	(4.67)	(7.63)	(4.758)
ASSET	74672	82210	86708	88002
	(112796)	(125808)	(132540)	(135003)
EMPLOY	1420.581	1472.349	1520.100	1548.240
	(1970.87)	(2062.93)	(2172.67)	(2262.86)
TXRT	0.257029	0.234328	0.211928	0.231747
	(0.369)	(0.125)	(0.352)	(0.268)
BONUS	43.10466	45.90403	46.64750	46.24334
	(32.16)	(34.11)	(35.28)	(35.38)
FIN	0.136601	0.140102	0.150026	0.163227
	(0.105)	(0.106)	(0.110)	(0.117)
IND-SHR**	0.254750	0.251532	0.255739	0.271542
	(0.107)	(0.107)	(0.108)	(0.114)
FIN-SHR**	0.347522	0.345666	0.342452	0.335785
	(0.148)	(0.145)	(0.145)	(0.144)
CORP-SHR**	0.297982	0.308533	0.310752	0.308005
	(0.173)	(0.175)	(0.174)	(0.172)
DIR-SHR**	0.036970	0.034392	0.033865	0.032665
	(0.055)	(0.052)	(0.052)	(0.049)
TRST-SHR**	0.040028	0.042344	0.040971	0.040859
	(0.037)	(0.038)	(0.037)	(0.038)
BROK-SHR**	0.022747	0.017532	0.016220	0.011144
	(0.023)	(0.021)	(0.021)	(0.012)

Notes: DTOE = Debt to Equity Ratio
ASSET = Total Assets
EMPLOY = Number of Employees
TXRT = Enterprise Tax Paid and Accrued/(Current income + Depreciation)
BONUS = Officers Bonus
FIN = Appropriated Retained Earnings/Total Assets
IND-SHR = Shares Held by Individuals
DIR-SHR = Shares Held by Directors
CORP-SHR = Shares Held by Other Corporations
FIN-SHR = Shares Held by Financial Institutions
TRST-SHR = Shares Held by Investment Trusts
BROK-SHR = Shares Held by Securities Brokers
**Since the total number of shares was unavailable, these numbers were calculated by dividing the number of shares for the mentioned variable by the total number of shares for all groups whose data was available.

This suggests that even in Japan, the larger companies could be subject to more political pressure than the smaller companies. The negative relationship for the number of employees, however, might be due to firms' attempts to reduce wage bills (economic motivation rather than political). A significant result for the effect of the corporate tax rate (TXRT) was not found.[6] This might be due to the lack of data on the fixed accrual effect through depreciation. The result for the individual ownership variable, which is much smaller in Japan relative to the U.S., shows that the Japanese managers have opposite incentives to their U.S. counterparts for choosing income-decreasing accounting accruals.

Table 3. Manipulation in Accounting Numbers for Years 1989–1992

Variable	*Expected Sign*	*Parameter Estimate*	*Standard Error*	*T for HO: Pramater = 0*	*Prob> ITI*
INTERCEPT	None	340.40	230.54	1.476	0.1399
DTOE	+	+50.58	39.410	1.283	0.1994
ASSET	_	-0.004*	0.0007	-5.979	0.0001
EMPLOY	_	-0.08*	0.0289	-2.975	0.0030
TXRT	_	-204.48	619.90	-0.330	0.7415
BONUS	+	+11.15*	2.2355	4.989	0.0001
FIN	_	-3914.11*	666.25	-5.875	0.0001
IND-SHR	+	-0.018*	0.0032	-5.670	0.0001
FIN-SHR	_	+0.093*	0.0186	4.999	0.0001
CORP-SHR	_	+0.005	0.0030	1.902	0.0573
DIR-SHR	+	-0.009*	0.0021	-4.321	0.0001
TRST-SHR	+	+0.106*	0.0132	8.052	0.0001
BROK-SHR	+	+0.173*	0.0257	6.748	0.0001
DUMMY	+	+343.14*	139.58	2.458	0.0140

Notes: DTOE = Debt to Equity Ratio
ASSET = Total Assets
EMPLOY = Number of Employees
TXRT = Enterprise Tax Paid and Accrued/(Current income + Depreciation)
BONUS = Officers Bonus
FIN = Appropriated Retained Earnings/Total Assets
IND-SHR = Shares Held by Individuals
DIR-SHR = Shares Held by Directors
CORP-SHR = Shares Held by Other Corporations
FIN-SHR = Shares Held by Financial Institutions
TRST-SHR = Shares Held by Investment Trusts
BROK-SHR = Shares Held by Securities Brokers
DUMMY = Dummy variable (Dummy=1 for 1991 and 1992 otherwise zero)
*Significant at .05 level; Number of observations (company-year): 2454; F Value: 40.818, Prob>F : 0.0001; R-square 0.1786, Adj R-sq 0.1742.

Another noteworthy finding in Table 3 is that the dummy variable for the 1990 stock market crash is significant. This variable takes a value of one for years 1991 and 1992 and a value of zero for years of 1989 and 1990. Given the direction of the dummy variable, the finding suggests that managers of Japanese companies chose income-increasing accounting accruals for years after the market-crash of 1990. The income-increasing-accruals may have been chosen to provide a better picture of companies in the troubled economy of years after 1990 or in an effort to keep companies' stock value high. Consequently, there is evidence that the choices of accounting accruals were influenced by the market crash.

Calendar-Year Results

To see if managers reacted differently pre (1989 and 1990) and post (1991 and 1992) stock market crash, we ran a regression analysis for each of the four years: 1989, 1990, 1991, and 1992. Table 4 compares the results among different years and those of pre- and post-market crash. Results for these years are both similar and as strong as those in Table 3. The only significant variables that are contrary to our hypotheses are the ones mentioned in Table 3 (individual and corporate ownership, and total assets). Interestingly, these

Table 4. Comparative Results of Regression Analysis for Years 1989–1992 (only signs for significant variables are included)

					*Market Crash***		
*Year***	*1989*	*1990*	*1991*	*1992*	*pre*	*Post*	*1989-1992 Table (3)*
Number of observations	566	637	655	595	1203	1250	2453
(Adj R^2)	(.21)	(.33)	(.19)	(.32)	(.21)	(.24)	(.17)
DTOE			+	+		+	
ASSET	+*		-	-		-	-
EMPLOY	-				-		-
TXRT							
BONUS		+	+	+	+	+	+
FIN	-	-	-		-	-	-
IND-SHR	-*				-*		-*
FIN-SHR		-	-	-	-	-	-
CORP-SHR	+*				+*		+*
DIR-SHR	+*				+*		+*
TRST-SHR	+	+	+		+	+	+
BROK-SHR	+	+	+	+	+	+	+
Dummy Var	N/A	N/A	N/A	N/A	N/A	N/A	+

Notes: *The variable is significant with opposite to hypothesized sign.
**The detailed analysis for each year is available upon request from the corresponding author.
N/A Not applicable. For definition of variables see Table 3 above.
All significant variables (but three in 1989), were in the same direction as predicted in this study's hypotheses. These variables are: DTOE, ASSET, Employ, BONUS, FIN, FIN-SHR, TRST-SHR, and BROK-SHR. The direction of Dummy Variable suggest income-increasing behavior for years after market crash of 1990.

results are present only in 1989, the year before the stock market crash. We attribute this to the bubble economy of the pre-stock market crash period.

Although the results show that the debt-to-equity variable for the entire four year period was not significant (see Table 3 above), it was significant after the crash (1991 and 1992). It appears that under a tighter market economic condition, the managers of Japanese companies either encountered greater pressure from the debt-holders to provide a more positive picture, or they needed to provide a more positive picture to obtain outside financing. The increase in the amount of internal financing during the years after the crash supports the second explanation (see Table 2 above). The results for years 1989 and 1990 are in accord with our expectation and this variable does not significantly affect the amount of manipulation in the accruals. These results may also indicate that the debt and equity environment in Japan is moving closer to that of the U.S.[8,9]

The second hypothesis addressed political cost and suggested that larger firms would choose income-decreasing behavior. We expected that this hypothesis would not hold. As Table 4 indicates, the ASSET variable is significant for years after the crash (1991 and 1992) in the direction suggested by the hypothesis. This variable is significant in 1989 with an opposite sign to what was hypothesized. Again, these results could be related to market pressure that resulted from the market crash. This result shown in Table 3 (income-decreasing effect of size variable) is driven by the years 1991 and 1992. The effect of the number of employees (as a measure of political costs) is significant and negative as hypothesized only in one year (i.e., 1989).

The corporate tax rates also did not significantly affect the choices in accounting accruals in any of the years under study. The management bonus continued to provide incentives for the firms to choose income-increasing accruals in all years except for 1989. When this variable was standardized by the total assets, however, the significant effect disappeared completely. This suggests that managers of larger companies receive higher bonuses (as is expected in any environment) and they do not use accounting accruals to increase the amount of their bonuses. The results found for FIN strongly support hypothesis 6. The significant negative coefficient suggests that firms requiring more external financing chose more income-increasing accounting accruals. Even in 1992, this variable is significant at .09 level and carries the expected sign.

The results indicate that the ownership variables are mostly consistent with the suggested hypotheses with three exceptions. First, not every variable was consistently significant across time. For example, the management ownership (DIR-SHR) was significant for only one year, 1989. Second, three (out of six) ownership variables had opposite to predicted signs: individual, management, and corporate ownership (IND-SHR, DIR-SHR, and CORP-SHR), again in 1989. As argued earlier, these results could be related to the market crash of 1990.

SUMMARY AND CONCLUSION

This study addressed the question of how Japanese managers make decisions on accounting choice. Using the data available for a large sample of Japanese companies, the study presented evidence supporting most of the hypotheses as developed. Since the business and accounting environment in Japan is different from that in the U.S., it is quite likely that the incentives to manipulate accounting numbers in Japan are different from those in the U.S. The dependent variable in this study is a discretionary accrual variable. This amount is calculated using a model that incorporates any changes in the discretionary accounting accruals without employing the accounting methods directly. We found that some explanatory variables affect choices of accounting accruals differently in Japan as compared to prior tests for U.S. companies.

Our results indicate that, on average, the debt hypothesis does not hold in the Japanese environment. Total assets and the number of employees appear to provide significant explanation either as political pressure variables or as proxy of labor costs. Similar to their U.S. counterparts, managers of Japanese companies choose income-increasing accounting accruals to increase the amount of outside funding. The ownership effect was also observed on the choices of accounting accruals. Those companies having higher degrees of ownership by trust companies chose income-increasing accruals to provide a more positive picture of the firm. The opposite effect was observed for the ownership by financial institutions. Contrary to our expectations, three ownership variables (individual investors, managers, and corporations) had wrong signs only in 1989. The stock market crash of 1990 had a definite effect on earnings management behavior and seems to have signaled a major regime change.

Although this study has data limitations, the results contribute to the existing literature regarding the choices of accounting accruals in other countries. For example, the model used in this study can be easily applied in other countries. Furthermore, we have shown that the traditional way of explaining accounting accrual choices in the U.S. may not be appropriate in other countries and additional (and in some cases, different) variables need to be employed for explaining accounting accrual choices.

This study can be extended to include additional detailed information for ownership (such as foreign investors), and management bonus plans. Furthermore, future researchers should consider the effect of the changing environment in Japan for the years after 1992. For example, the Japanese government revised the Commercial Code in 1993. The revised Code provides more incentives for Japanese corporate boards to pay closer attention to their fiduciary duties because of the possibility of shareholder activism. Similarly, in 1997, the Japanese government lifted the ban on holding companies (zaibatsus) that had been in place since the end of the Second World War. In due course, this action could drastically affect the Japanese business environment. Our results suggest that financial statement users must consider financial statements from countries other than their own within the context of the business and cultural environment of the country where they originate. Financial statements from different countries cannot be treated as identical even though they may ostensibly be prepared using identical accounting standards such as those of the International Accounting Standards Committee (IASC).

Acknowledgments: We wish to thank Jacob Thomas, Somnath Das, Russell Taussig and participants at the Oklahoma State University research colloquium and the 1997 Annual Meeting of the American Accounting Association's International Accounting Section, and an anonymous reviewer for the International Journal of Accounting for their helpful comments and suggestions.

APPENDIX A

Assessing the discretionary revenue effect

The receivables assumption suggests that a true ratio for accounts receivables to revenues exists. Then this ratio can be found using the following:

$$K = AR_{(t\text{-}n \text{ to } t\text{-}1)} / R_{(t\text{-}n \text{ to } t\text{-}1)} = AR_{Tt} / R_{Tt},$$

where

K	is the firm's normal (true) accounts receivable to revenues ratio (averaged from n to t-1, where t is the year under study).
$R_{(t\text{-}n \text{ to } t\text{-}1)}$	is the firm's total revenue from t-n to t-1, where t is the year under study.
$AR_{(t\text{-}n \text{ to } t\text{-}1)}$	is the firm's total accounts receivable from t-n to t-1, where t is the year under study.
AR_{Tt}	is the true accounts receivable in year t.
R_{Tt}	is the true total revenue in year t.

An important assumption we make about sales revenue manipulation is that managers can only manipulate the amount of credit sales (not cash-sales) through accounts receivables. Assuming that management has manipulated the revenue in period t, the accounts receivable (AR_t) to sales revenues (R_t) ratio for t is not equal to K. Defining $AR_{dt} = R_{dt}$ to be the manipulated amount, we have the following relation:

$$K = AR_{Tt}/R_{Tt} = (AR_t - AR_{dt})/(R_t - R_{dt}).$$

Substituting the equality $AR_{dt} = R_{dt}$ and solving for R_{dt}, we get

$$R_{dt} = (AR_t - K^*R_t)/(1-K) .$$

Assessing the Variable Accrual Effect

By the Cost Behavior assumption, the average variable accrued cost ratio of periods ($t-n$ to $t-1$) can serve as the benchmark for assessing period t's discretionary changes in variable accrued expenses. Essentially, the *change* in the average variable accrued expense ratio for periods ($t-n$ to $t-1$) to period t signals a discretionary change that belongs only to period t. Thus, the income effect is simply the change in ratio multiplied by the true revenues of period t. The total variable cost ratio is the difference between the total expenses and fixed expenses (i.e., the depreciation and amortization expenses), divided by reported revenues:

$$b_t = (E_t - F_t)/R_t ,$$

where

E_t is total reported operating expenses

F_t is Depreciation + Amortization (by the fixed expense assumption)

The income effect of manipulating variable accrued expenses is computed as follows:

$$A_{vt} = b_{(t-n \text{ to } t-1)}R_{Tt} - b_t R_t .$$

Even if management manipulates the amount of income for one period by adjusting accounts receivables and revenues, the effect has to be reversed in the near future. Using the average of six years ($n = 7$) should delete the manipulation effect for individual periods.

APPENDIX B

Dependent Variable Specification: Measuring Discretionary Accruals

ACCOUNTING NUMBERS WITHOUT MANIPULATION

	"t-1"	"t"	"t+1"
Sales (.8 cash)	400	500	300
Cash exp (.5 sales)	(200)	(250)	(150)
	200	250	150
Accrued expenses:			
Dep. Ex.	50	50	50
Bad debt (.1 sales)	40	50	30
Other accruals(.2 sales)	80	100	60
Total accruals	(170)	(200)	(140)
Net Income	30	50	10
Account Receivable(.2 sale)	80	100	60

Assume that the manager manipulates the amount of sales, bad debts expense, and the depreciation expense for the period "t." The manager may decide to decrease or increase the net income of the period, depending on the firm's contracting situation. Also, assume that the changes in the depreciation expense are disclosed in the financial statements as "cumulative effect of the changes in accounting methods." As a result, it is not necessary that the researcher calculate the effect of the depreciation manipulation on the period's net income. The direction of the manipulation in net income can be predicted by the direction of the "cumulative effect of the changes in accounting methods" (or by that of the effect of the manipulation of the variable accrued expenses) on net income. The following situation is a case of income-increasing behavior for period "t"

MANAGER CHOOSES TO INCREASE THE NET INCOME FOR "t:"
Assume that the result of the manipulation is as follows:

	"t-1"	"t"	"t+1"
Sales (.8 cash)	350	550	300
Cash exp (.5 sales)	(175)	(275)	(150)
	175	275	150
Accrued expenses:			
Dep. Ex.	50	30	70
Bad debt (.1 sales)	35	27.5	57.5
Other accruals(.2 sales)	70	110	60
Total accruals	(155)	(167.5)	(187.5)
Net Income	20	107.5	37.5
Account Receivable(.2 sale)	30	100	60

The dependent variable for the test of theory consists of three components:

$$A_t = A_{rt} + A_{vt} + A_{ft}$$

where

A_{rt} = the discretionary revenue effect
A_{vt} = the discretionary variable accrual effect
A_{ft} = the discretionary fixed accrual effect

The following steps should be taken to calculate the dependent variable:

Step one: Calculate A_{rt} (assume R_t and R_{t+1} are reported revenues for the two periods t and t+1 and AR stands for accounts receivable):

$$A_{r(t+1)}/R_{t+1} = K_{t+1} = K = 60/300 = .2$$

R_{Tt} $= AR_t/K = 100/.2 = 500$ = expected revenue for t.
A_{rt} $= (R_t - R_{Tt})(1\text{-}b)$, where b is the total variable cost ratio.
b $= [(275/550) + ((27.5+110)/550)] = .75$
A_{rt} $= (R_t - R_{Tt})(1\text{-}b) = (550 - 500)(1\text{-}.75) = 12.5$

Step two: Calculate A_{vt}:

$$E_{vt} = E_{at} - F_{at}$$

where:

E_{at} = total accrued expenses
F_{at} = fixed accrued expenses
E_{vt} = variable accrued expenses
$V_{t-1} = E_{v(t-1)}/R_{t-1} = ((155-50)/350) = .3$
$V_t = E_t / R_t = ((167.5-30)/550) = .25$
$DV = V_{t-1} - V_t = .3 - .25 = +.05$
$A_{vt} = DV * R_{Tt} = .05 * 500 = 25$

Step three: Find the disclosed amount of A_{ft}:

This amount should have been disclosed in the financial statement, and for this case, it is assumed that the effect of change in the depreciation expense has been disclosed as $20. Then, A_{ft} is "+20."

Test of calculation

$A_t = A_{vt} + A_{rt} + A_{ft}$
$A_t = 12.5 + 25 + 20 = 57.5$

Reported net income - True net income = Manipulated amount

107.5 - 50 = 57.5

As a consequence, given the assumptions constructed for the model, the model can capture 100% of the manipulation for period "*t*." If we had used DeAngelo's 1988 random walk model instead, that would have resulted in $27.5 for the manipulation in the net income in period *t*. As is shown, the model of this study outperforms the random walk model.

NOTES

1. OECD, Financial Market Trend, 1995
2. McKinnon (1984) showed that less than 9 percent of directors of Japanese firms were independent in that they were from non-banking companies which did not belong to the keiretsu of the firm whose board they were serving on.
3. Other studies (e.g., Shivakumar, 1996) have also tried to address the problems with currently used models to estimate the manipulation in the accounting accruals. However, most of these models require detailed data items.
4. According to U.S. Generally Accepted Accounting Principles, the current (or catch-up) approach should be employed to account for changes in accounting principles. The cumulative effect of the adjustment should be reported in the income statement between the captions "extraordinary items" and "net income" (Accounting Changes, Opinions of the Accounting Principles Board No. 20, New York: AICPA, 1971). This measure is not available for Japanese companies.
5. Since the effect of these changes was not available in the Japanese data base, this item is not included in our calculation of the manipulation in the accounting accruals. Even for U.S. companies, Pourjalali and Hansen did not find many companies that chose to change from an accepted accounting principles to another accepted accounting principle in any given period.
6. From various issues of the Tokyo Stock Exchange Fact Book.

7. Even for individual years, the tax-rate variable continued to be insignificant. Inoue and Thomas (1996) found that this variable is significant for companies with year end during October 1990 and September 1991.
8. The increase in the percentage of the individual investors' ownership in Japanese firms may also indicate a shift in the equity structure.
9. Our results of 1992 are consistent with those reported by Inoue and Thomas (1996) and Aono and Eakin (1996).

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The International Journal of Accounting

Effect of the Inconsistency in Accounting Standards on the Choice of Financial Instruments: The Case of Debt Issued with Stock Purchase Warrants and Convertible Debt by Japanese Companies

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Key Words: Convertible debt; Covered warrants; Debt issued with stock purchase warrants; Japan; Substance over form

Abstract: *Accounting treatment for debt issued with stock purchase warrants in Japan was changed to record consideration for warrants and consideration for debt separately. As a result, accounting for convertible debts and debt with warrants became inconsistent, and the choice of financial instrument seems to be affected by that inconsistency. Some Japanese companies began to use covered warrants in the Euro market to repackage their convertible debt into debt with warrants. This paper provides evidence which shows the necessity of consistent treatment for call options in convertibles and warrants.*

In 1994, the Japanese Institute of Certified Public Accountants (JICPA) issued a report entitled "Accounting for debt issued with stock purchase warrants by the issuing companies," which changed the accounting treatment for debt issued with stock purchase warrants (WB) in Japan. Before that report, Japanese companies were not required to distinguish between the consideration for debt and the consideration for warrants. As a result, in the extreme case, some companies could even increase their net income directly by issuing debt, because the consideration for warrants was greater than the total interest expense over the term of that debt, and the premium was, in fact, treated as revenue or a deduction of expense.

After the adoption of the new accounting treatment, there were two significant changes in the behavior of Japanese companies. (1) The number of WBs by Japanese companies dramatically decreased. (2) Japanese companies which issued the convertible debt (CB)

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The International Journal of Accounting, Vol. 33, No. 3, pp. 335-345 ISSN: 0020-7063.

began to use covered warrants in the Euro market. This paper explains the cause of those results and seeks a solution to make the accounting standards in Japan consistent.

The problem addressed in this paper is not unique to Japan. Although IAS32 requires split accounting for both convertible debt and debt issued with stock purchase warrants, the accounting standards in the USA and in the UK do not permit separate recognition of the conversion privilege. FRS4 does not permit split accounting for convertible debt because of the complexity and subjectivity involved. APB14 denies recognition of conversion privilege separately because of the inseparability, however, according to paragraph 18, when the convertible debt is issued with a substantial premium, that part will be treated as paid in capital. And actually, in the case of Adjustable Rate Convertible Notes, paragraph 18 has been applied, and the conversion privilege has been recognized separately (King and Ortegren, 1988). In the USA, inconsistencies in accounting treatment can be found, not only between convertible debt and debt issued with stock purchase warrants, but also among different forms of convertible debt.

If there is something different in legal form, but the same in substance, the same accounting treatment should be applied. If an accounting treatment is applied based on form instead of substance, it will provide opportunity for earnings management or creative accounting.

HOW THE REPORT CHANGED THE ACCOUNTING FOR WB

Before the JICPA report was issued, Japanese companies did not distinguish between the consideration for warrants and the consideration for debt. As a result, some companies could increase their net income by simply issuing debt. For example, one company issued WB at @101.60 yen. The interest rate was only 0.1% per year. As that debt was a four year bond, the total interest expense until maturity was only @0.40 yen, and the premium was @1.60 yen which was treated as revenue. Thus, net income was increased by the net of @1.20 yen.

This strange result was caused by mixing the interest expense and the consideration for warrants. By distinguishing the consideration for warrants from the consideration for debt, it became possible to present the interest expense fairly.

If a WB for ten billion yen were issued at par (consideration for debt equal to eight billion yen and consideration for warrants equal to two billion yen), before the change in accounting treatment, the entry for that transaction would be as follows;

Dr. Cash	10,000,000,000	
Cr. Debt issued with stock purchase warrants		10,000,000,000

As the interest rate of WB is set lower than that of debt issued without stock purchase warrants, the cost of debt will not be presented fairly.

The Report changed the accounting treatment to distinguish the consideration for warrants from the consideration for debt. As a result, the above entry changed as follows;

Dr. Cash	2,000,000,000	
Cr. Stock purchase warrants outstanding		2,000,000,000
Dr. Cash	8,000,000,000	
Debt discount	2,000,000,000	
Cr. Debt		10,000,000,000

The stock purchase warrants outstanding account will appear in the current liability section of the balance sheet. This is because paid in capital is defined as consideration for capital stock, and the consideration for stock purchase warrants cannot be said to be consideration for capital stock before the warrants are exercised. When the warrants are exercised the balance of that account will be transferred to the Capital reserve account. If the warrants expire, the balance will be transferred to revenue.

The change in accounting for WB has the two following aspects;

1. It reduces net income.
   The debt discount must be charged to expense immediately or deferred and amortized until the maturity of the debt, which will reduce the net income.
2. It reduces corporation taxes.
   The above mentioned charge for the debt discount is tax deductible, and therefore will reduce the corporation tax.

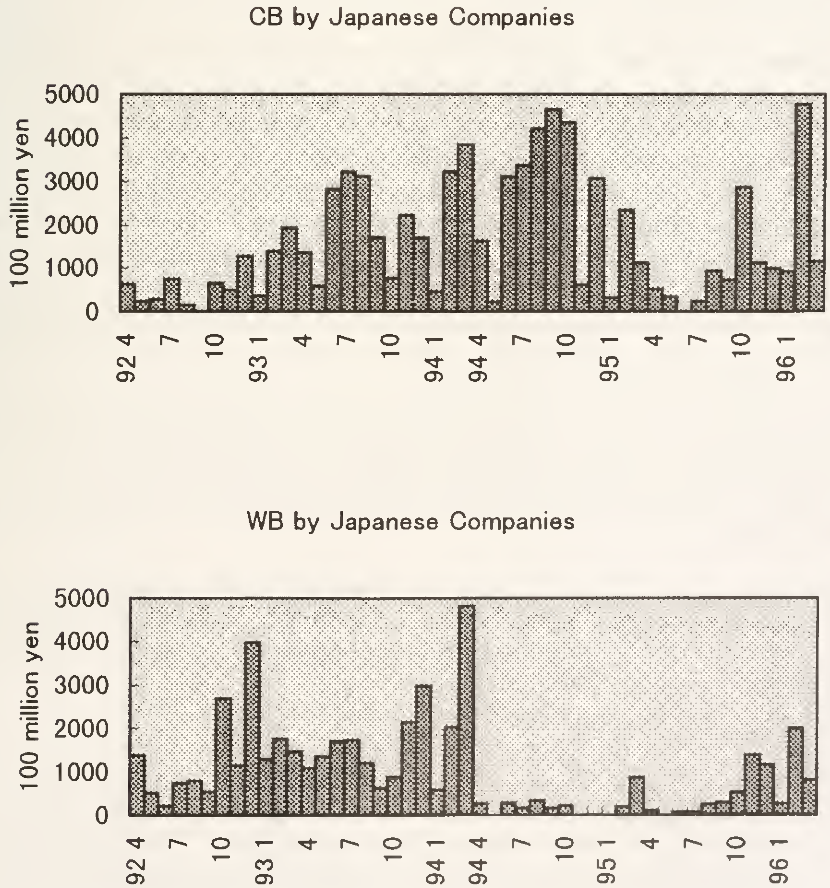

Figure 1. CB and WB by Japanese Companies.

Actually after the adoption of the new accounting treatment, the number of WB decreased from one hundred eighty eight in fiscal year 1993 to thirty six in fiscal year 1994. The amount decreased from two trillion one hundred eleven billion yen to two hundred fifty billion yen. As for CB, the number increased from one hundred ninety three to one hundred ninety four, and the amount from two trillion six hundred seven billion yen to two trillion eight hundred ninety eight billion yen (*Bond Review* No. 464, The Bond Underwriters Association of Japan). These figures seem to show that there might be a change in choice of financial instruments caused by the change in accounting treatment.

Figure 1 shows the financial activity by Japanese companies in CB and WB based on the data from *Bond Review* (Nos. 440, 452, 464, 476). As for WB, a cliff can be seen between March and April in 1994, when the accounting treatment was changed.

EFFECTS ON THE CHOICE OF CB AND WB

CB and WB are both debt issued with call options for the stock of the issuing company. Therefore, they are alternatives for each other to some extent. However, if the conversion privilege is exercised, debt will disappear, but if the warrant is exercised debt will remain and at maturity, it has to be redeemed. The exercise of the conversion privilege will not provide a cash inflow, but the exercise of the warrant will provide a cash inflow. So CB and WB are not exactly the same but can be considered as alternatives to a certain extent.

As for accounting treatment, because the accounting for WB was changed, the accounting now for warrants and the conversion privilege are completely different. The conversion privilege is not recognized separately, as the warrants were before the change in accounting treatment. Now, the warrants are accounted for separately, but the conversion privilege is not.

It can be assumed that companies with a larger net income may prefer WB because they care more about reducing taxes, but companies with a smaller net income care more about their net income than reducing taxes.

In order to test this hypothesis, companies that issued CB and/or WB between April 1992 and March 1996 were identified from *Japan Company Handbook on Convertible Debt and Debt Issued with Stock Purchase Warrants*, Toyokeizai, May 1996 (in Japanese). The results are shown in Table 1.

Table 1. Number of Japanese Companies Issued CB and/or WB from April 1992 to March 1996

AFTER	*NONE*	*only CB*	*only WB*	*BOTH*
BEFORE				
NONE		160	48	14
only CB	114	35	4	3
only WB	146	26	17	7
BOTH	32	9	6	6

Note: "BEFORE" means the period from April 1992 to March 1994, and "AFTER" means the period from April 1994 to March 1996. "NONE" means the companies which issued neither CB nor WB during that period, "only CB" means the companies which issued CB but did not issue WB during that period, "only WB" means the companies which issued WB bud did not issue CB during that period, and "BOTH" means the companies which issued both CB and WB during that period.

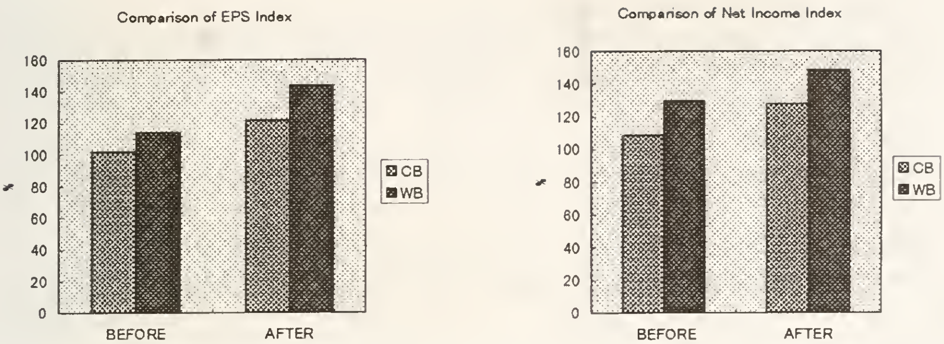

Figure 2. Comparison of EPS and Net Income Indexes

Table 1 shows how the companies made their choice between CB and WB, before and after the change in accounting treatment for WB.

Figure 2 shows the comparison of the difference in the average of the index of EPS and the index of net income between the companies that issued CB and companies that issued WB, before and after the change in the accounting treatment. The EPS and net income figures for each company were gathered from the data available in *Nikkei Corporation Information*, Nihon Keizai Shinbun, (Summer 1996) and (Fall 1997) (in Japanese). Index of EPS was calculated by dividing the EPS of the period in which the company issued CB or WB by the EPS of the previous period, and the resulting number was then multiplied by one hundred. The index of net income was calculated in the same manner. The companies that reported a net loss during either of those periods were excluded because the figures would be negative. The OTC companies which issued CB before January 1996 were excluded because they were not allowed to issued WB, so they did not have a choice. The companies that issued both CB and WB during the same period were excluded because their preference were not clear. The companies that changed their accounting period were also excluded.

The average of the increase in EPS of the companies that issued WB was larger than that of the companies that issued CB, and the difference increased after the change in the accounting treatment. However, the t values in both cases were small, and the difference between the index of net income did not increase after the change in the accounting treatment.

Convertible securities can be thought of as securities with non-detachable warrants (Jensen and Meckling, 1976, 354, Finnerty, 1986, 82). However, when the warrants are detachable, the tax effects, capital structure changes, and cash flows may differ (Phelps, Moore, and Roenfeldt, 1990, 101). There are also differences in issuing costs (Long and Sefcik, 1990, 34). So the differences in accounting treatment are not the only reason that companies make this decision.

For example, there were one hundred and sixty companies which issued only CB after the change, whose decision might be based on a nonaccounting factor. The same thing can be said for forty eight companies which issued only WB after the change. Although, there were one hundred and forty six companies which issued only WB before the change and did not issued WB after the change, that does not necessarily mean that those companies

Table 2. Comparison of the Trends in Earnings

	Number of Data	*EPS (Yen) (Average)*	*Index of EPS (Average)*	*Index of Net Income (Average)*
CB to WB	4	32.4	127.9327	127.9251
WB to CB	25	24.824	99.4723	106.5967
t value		0.5526	1.0005	0.7453

Table 3. Comparison of the Trends in Expected Earnings and the Total Assets

	Number of Data	*Index of Net Income (Average)*	*Total Assets in Million Yen (Average)*
CB to WB	4	164.5982	52000
WB to CB	27	105.1915	153666.7
t value		2.7176	2.3428

moved away from issuing WB. If there were no necessity for financing, those companies would not issue WB regardless of the accounting treatment. The same thing can be said for one hundred and fourteen companies which issued only CB. So it is necessary to focus on that data whose preference for CB or WB is most likely to be affected by the change in accounting treatment.

Table 2 shows the comparison of the EPS, trends in the EPS, and trends in the net income of the companies that changed their choice of financial instruments absolutely. "CB to WB" companies are defined as companies which issued CB but did not issue WB for two years before the change in accounting treatment for WB, and issued WB but did not issue CB for two years after the change. "WB to CB" companies are defined as companies which issued WB but did not issue CB before the change in accounting treatment, and issued CB but did not issued WB after the change. There were four "CB to WB" companies, and twenty six "WB to CB" companies (see Table 1). Two "WB to CB" companies were excluded from Table 2 because they suffered extraordinary losses caused by the earthquake after issuing CB. One "WB to CB" company is included twice in that data because that company issued CB in two different periods. Therefore the number of the data is not same as the number of the companies shown in Table 1.

Table 2 shows that the average EPS for "CB to WB" companies was larger than that of "WB to CB" companies, as expected. The indexes are calculated by dividing data of the current period by that of the previous period and multiplying by one hundred. "CB to WB" companies increased their EPS and net income more than "WB to CB" companies. But the number of data was small, and t values were too small even at the ten percent level.

The choice between CB and WB is made before the end of the accounting period. Therefore, the management's decision must be made based on their forecast for earnings at that time. Table 3 is prepared based on the expected earnings instead of the actual results. Expected net income figures were gathered from *Nikkei Corporation Information*, Nihon Keizai Shinbun, (Summer 1994 to Spring 1996). Although these figures might not be the exact figures that the management had in mind, they are the best estimates available.

Two "WB to CB" companies that suffered extraordinary losses due to the earthquake are included in Table 3, so the number of data is different from Table 2.

The difference between the average of the expected net income indexes was significant at the five percent level. However, the size of the companies measured by total assets were also different (significant at the five percent level), and the number of data was small as stated before.

The change in accounting for WB made the accounting for CB and WB inconsistent. As a result, the choice of the financial instruments to be used seems to have been affected by that inconsistency.The next section presents a piece of evidence which proves this point.

THE USE OF COVERED WARRANTS BY JAPANESE COMPANIES IN THE EURO MARKET

Covered warrants of Japanese companies issued by financial institutions are not new. The covered warrant market began to emerge in the late 1980s, because there was a substantial demand for Japanese warrants denominated in Swiss francs (Redmayne, 1995, 157–158). However, the usage of covered warrants under the control of the company which issues CB in new. According to *Dictionary of New Economic Terms*, Nihon Keizai Shinbun Inc., 1995, (in Japanese), this new scheme can be summarized as follows.

A financial institution which is the lead underwriter for a company establishes a special purpose company. That special purpose company will purchase all of the CB issued by a company and repackage the securities into WB, and then sell this new package of securities to investors. When the warrants are exercised concurrently by the investors, the special purpose company will exercise the conversion privilege to receive the shares of the issuing company. The cash paid in for the exercise of the warrants will be retained by the special purpose company and used for the redemption of the debt. If the warrants are not exercised, the special purpose company will simply receive cash from the redemption of the CB and redeem the debt on its own.

This scheme has the effect of circumventing the new accounting treatment for WB. The company issuing CB does not separate the consideration for conversion privilege from the consideration for debt when they make an entry in their books. However the investor can invest in the warrants of that company by investing in the covered warrants issued by the special purpose company. The special purpose company is not a subsidiary of the issuing company, for that special purpose company is established by the arrangement of the financial institution. So the consolidated financial statements cannot tell the full story.

According to Ariga (1995), it was better for the company to issue CB in the Euro market than in the domestic market. The sudden decrease in the number of warrants issued by Japanese companies made it advantageous to sell covered warrants in the Euro market. If that is the main reason for the usage of the scheme, it must be more beneficial for the companies to sell WB without using a special purpose company. It can be said that the inconsistency in accounting treatment between CB and WB made companies use covered warrants in Euro market.

One more problem exists here. The consolidated financial statements failed to reveal the reality of the situation because the special purpose company used to repackage CB into WB was not a subsidiary. The consolidation policy should be reconsidered to include consolidation of such kind of special purpose companies. Considering substance over form, such special purpose companies should be treated as subsidiaries.

CONSISTENT ACCOUNTING FOR CB AND WB

If the accounting for CB was changed in Japan and the consideration for conversion privilege were to be separately recognized from the consideration for debt, the inconsistency will disappear for the accounting treatment when the debt is issued. However, because of the unique feature of the Japanese Commercial Code, another problem might arise.

According to the Japanese Commercial Code, articles 341-7 and 222-3, the amount of the consideration for the stock issued by conversion is the amount of the consideration received for the CB when it was issued (Nakamura, 1996, 193). As long as CB is issued at par, there will be no problem in the application of this provision.

When CB are issued at a premium or a discount, there will be a problem. The existence of a premium or discount makes the book value and the original value of the convertible debt different. If the conversion privileges are exercised, the difference will be treated as a lost or a gain on conversion (Nakamura, 1971, 24-25). Example 1 explains this point.

Example 1

CB of ten billion yen was issued at eight billion yen.

Dr. Cash	8,000,000,000	
Debt discount	2,000,000,000	
Cr. Convertible debt		10,000,000,000

The conversion privilege was exercised when the balance of the debt discount was one billion yen.

Dr. Convertible debt	10,000,000,000	
Cr. Capital stock		8,000,000,000
Gain on conversion		2,000,000,000
Dr. Interest Expense	1,000,000,000	
Cr. Debt discount		1,000,000,000

Japanese companies rarely issue CB at a premium or discount. They simply issue at par to avoid the above mentioned gain or loss on conversion. So without amending those articles of the Japanese Commercial Code, and assuming the current tendency to issue CB at par continues, the situation in Example 2 will be brought about.

Example 2

CB of ten billion yen was issued at par (two billion yen for conversion privilege and eight billion yen for debt).

Dr. Cash	2,000,000,000	
Cr. Conversion privilege outstanding		2,000,000,000
Dr. Cash	8,000,000,000	
Debt discount	2,000,000,000	
Cr. Debt		10,000,000,000

The conversion privilege is exercised when the balance of the debt discount account was one billion yen.

Dr. Debt	10,000,000,000	
Cr. Capital stock		8,000,000,000
Gain from conversion		2,000,000,000
Dr. Interest Expense	1,000,000,000	
Cr. Debt discount		1,000,000,000
Dr. Conversion privilege outstanding	2,000,000,000	
Cr. Capital reserve		2,000,000,000

However, if the companies' attitude is to avoid gain or loss on conversion, they can do so by issuing CB with a premium exactly equal to the value of conversion privilege. Example 3 explains this point.

Example 3

CB of ten billion yen was issued at twelve billion yen (two billion yen for conversion privilege and ten billion yen for debt).

Dr. Cash	2,000,000,000	
Cr. Conversion privilege outstanding		2,000,000,000
Dr. Cash	10,000,000,000	
Cr. Debt		10,000,000,000

Conversion privilege is exercised.

Dr. Debt	10,000,000,000	
Cr. Capital stock		10,000,000,000
Dr. Conversion privilege outstanding	2,000,000,000	
Cr. Capital reserve		2,000,000,000

In this case, no gain or loss on conversion will be reported. If the main reason for Japanese companies issuing CB at par is to avoid a gain or loss on conversion, the term of the CB will be like this.

However issuing debt with a high premium is not popular in Japan. It is hard to say for certain that a situation like Example 3 would take place. Moreover, companies can report a gain or loss on conversion if they issue CB at a premium or discount. So the articles in the Japanese Commercial Code should be amended so that book value of the CB can be transferred to the capital stock account.

SUMMARY

The change in accounting treatment for WB caused two effects. One is the sudden decrease in number of WB issued, and the other is the use of covered warrants.

To some extent, CB can be a substitute for WB because they are both debt issued with call options. However, besides the difference in the pattern of their cash flows, there is a significant difference in the accounting treatment, which results in a difference in net income and corporation taxes. It can be assumed that companies with enough income will care more about taxes and choose WB, and that companies with less income will care less about taxes and choose CB. However, the results of the survey on this point were not clear.

More interesting was the use of covered warrants to repackage CB into WB in the Euro market. By using this scheme, companies could circumvent the new accounting treatment.

This fact proves that the inconsistency in the accounting treatment for CB and WB affected their choice of financial instruments.

In order to make the accounting standard neutral, the consideration for conversion privilege and the consideration for debt have to be accounted for separately. In addition, the unique feature in Japanese Commercial Code which requires that the value of the stock issued on conversion be equal to the original value of the convertible debt has to be amended.

NOTE

1. It was reported by the Nikkei Newspaper on July 10, 1996 that the Ministry of Finance of the Japanese Government would reconsider the accounting for convertible debt. In June 1997, Issues Paper on Accounting Standard for Financial Instruments was issued from the advisory council to the Ministry of Finance of Japan (Business Accounting Deliberation Council: BADC, 1997). BADC plans to finalize the opinion on accounting for financial instruments in the summer of 1998.

Acknowledgments: Helpful comments were received from Vernon K. Zimmerman, Andrew D. Bailey, Jr., J. Richard Dietrich, Sridhar Ramamoorti, Hanns-Martin Schoenfeld, Theodore Sougiannis, Arthur Wyatt, during my stay from August 1996 to April 1997 as a visiting scholar at the Center for International Education and Research in Accounting of the University of Illinois at Urbana-Champaign, and from two anonymous reviewers. Financial support from the Shikishima Foundation is gratefully acknowledged.

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The International Journal of Accounting

New Forms of Assurance Services for New Forms of Information: The Global Challenge for Accounting Educators

Gary L. Holstrum and James E. Hunton

Key Words: Assurance services; Information technology; Virtual reality; Accounting education; International; Global

Abstract: *This paper explores recent initiatives to develop new assurance services that are being demanded for new types of information in the marketplace and the resulting global challenge to accounting educators. The paper develops a realistic scenario for new assurance services, identifies critical business performance areas for which new assurance services are demanded, discusses the work of the AICPA Special Committee on Assurance Services (Elliott Committee, 1994) and related international groups, and makes recommendations for actions by accounting educators. These recommendations parallel and enhance those of the American Accounting Association's Task Force on Future Audit, Attestation, and Assurance Services.*

Philippe Mercier, a venture capitalist located in Paris just read a business plan submitted by Sally Reid, who owns and operates an upscale, unique clothing store located in New York City. Sally's store is called CADCAM Clothing, Inc., hereafter referred to as CCC, and she deals exclusively with men's and women's business suits. Customers of CCC use a sophisticated computer program to shop for business apparel.

Customers first walk through a scanning device that looks much like a metal detector used in airports, and the computer records a host of physical attributes, such as height, weight, and body measurements. From this scan, the computer digitally reproduces the customers' human form. Next, customers use the computer to view business suits offered through CCC's electronic catalog and pick one or more they like. The computer shows customers how they would look in their chosen suits in full-size, three-dimensional, holographic images. Suits can be further adapted to the customers' personal tastes by viewing a variety of cloth types, material patterns, and custom alterations. Once a customer decides to purchase a suit, a CADCAM system, in conjunction with robotic cutting and sewing

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The International Journal of Accounting, Vol. 33, No. 3, pp. 347-358 ISSN: 0020-7063.

machines, creates the suit to exact specifications. The suit is completed and delivered in about one-hour.

Sally's business plan proposes to expand this concept, on a franchise basis, throughout the world. The advantages to franchisees are: (a) they join a network of franchisees where the business suit lines of all participating clothing stores form a virtual showroom of suits and (b) CCC will supply the software, hardware, equipment, and training to franchisees. As a result, for example, a customer in Frankfurt may choose a suit offered by a store in London. If the selected material is available in Frankfurt, the customer can walk out with the suit in about an hour. However, if the material is not available in Frankfurt, the computer will search the inventory of all franchisees, find the nearest location having the material, produce the suit at that remote location, and ship the suit to the requesting store or directly to the customer using priority mail. The business plan calls for an alliance with a Hong Kong company to establish a purchasing program to conduct real-time searches of the global marketplace for high quality fabrics at the most competitive prices and with the best quality controls and the most reliable delivery times. The objective is to have any suit delivered to any customer anywhere within three working days. Sally needs $30 million in start-up capital, and Philippe is interested.

The first trip Philippe makes is to visit Sally's existing store. He meets with Sally and her 25 workers, tours the physical plant, and performs an analysis of CCC's financial position by querying CCC's financial database. Philippe next visits three clothing store chains, which are very interested in purchasing franchises. The potential franchisees are located in Madrid, Spain; Tokyo, Japan; and Sydney, Australia. At each location, Philippe visits with owners and discusses their expectations, views the business suit lines, analyzes historical financial statements, examines plans for the franchise, meets with local marketing analysts to obtain an independent assessment of market potential, and tours production facilities of local cloth suppliers. The next stop on Philippe's journey is the plant location for the developers of the CADCAM system and related production equipment in the California's Silicon Valley. Philippe visits with owners and management, examines patents awarded to the unique and novel CADCAM system, reviews past financial performance by querying their financial database, observes production processes, inspects final products, and learns how the CADCAM system works. Next Philippe meets with the management of the fabric-supply alliance firm in Hong Kong, performs a review of their fabric-procurement process conducted jointly with CCC, and analyzes the controls that the vendors have in place to provide reasonable assurance of complying with the quality control standards of ISO 9000. Finally, Philippe travels to the office of a marketing analyst in Milan, Italy, who is a leading international expert in clothing and business suit lines. After reviewing Sally's business plan, the marketing analyst determines that the assumptions and projections made in CCC's business plan are reasonable.

Immediately after talking with the marketing analyst, Philippe takes off his virtual reality headset, bodysuit, and gloves, stares out the window of his 40th story office in La Défense looking in the distance at the Arc de Triomphe and Avenue des Champs-Élysées, and reflects on his recent experiences.

The fictitious scenario just presented takes place in the not-too-distant future when a large portion of worldwide business travel occurs in virtual reality. Philippe completed all of his journeys in the comfort of his office. In just two working days, he has sufficient information to make a $30 million investment decision. His costs for reviewing and analyzing all of the information that is relevant to the business plan are nominal, and they fall into two general categories. First, there is an hourly rate charged by his virtual reality provider to fly around the virtual world created in cyberspace. Second, Philippe pays fees to a variety of CPA firms and other entities along the way who provide desired degrees of assurance that the virtual world fairly represents its physical counterpart.

The broad array of information used in making business decisions has expanded rapidly and extensively, creating a strong demand for new types of assurance services. Indeed, Elliott (1994) argues that unless auditors dramatically refocus the scope of their assurance services to address these new types of information, the very survival of the profession is at risk. In this paper, we identify the vital role accounting educators will play in shaping future assurance services, such as our virtual reality example. We explore the global challenge facing accounting educators as they struggle to develop relevant curricula, create new technology-based methods of educational delivery, and design meaningful research projects for such assurance services. But first, we explain the necessity to expand assurance functions and describe current efforts by several groups to lead the profession in meeting the demand for assurance services moving into the 21st century.

CRITICAL PERFORMANCE AREAS AND THE NEED FOR FUTURE ASSURANCE SERVICES

To evaluate the overall performance of a business entity, it is essential to evaluate not only the items that are included in present financial statements prepared in accordance with generally accepted accounting principles, but rather all four of the critical performance areas shown in Figure 1. In this figure, financial performance evaluation addresses items typically included in current-day financial statements. Process performance evaluation addresses how the entity manages internal processes designed to produce its products or

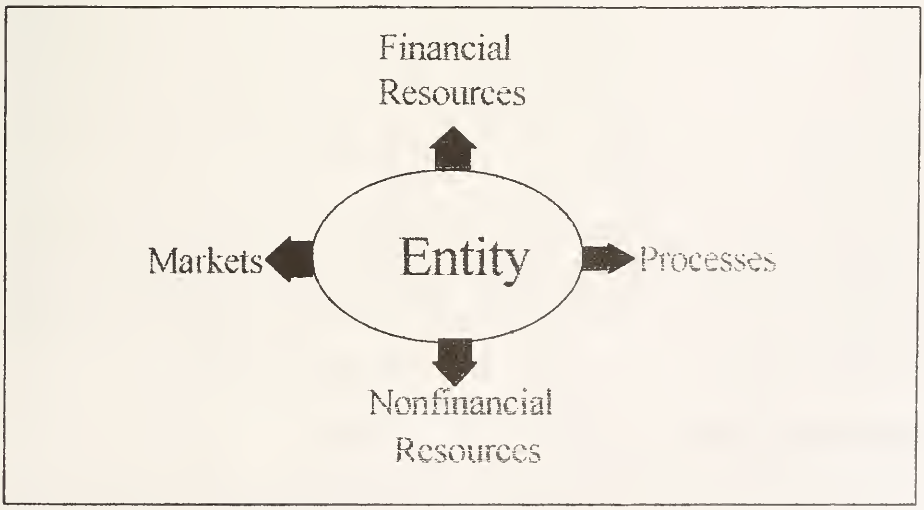

Figure 1. Critical Entity Performance Area

services. Nonfinancial resource performance evaluation addresses how the entity manages critical resources that are largely ignored by current-day financial statements, such as intellectual capital, human resources, and information. Market performance evaluation addresses the market for the entity's products or services and how the entity manages its marketing efforts.

The current practice of financial accounting, business reporting, and auditing ignores most of the critical information in all but the financial performance area. Yet, relevant measures of economic performance and value in today's global market are largely contained within the other three areas—processes, markets, and nonfinancial resources. Indeed, much of the growth in value in the economy is associated with up-start or relatively young entities that capitalize on information technology, intellectual resources, and innovative processes designed to meet specified marketplace demands efficiently and effectively. Some relatively new companies (such as Netscape Communications Corporation and Amazon.com) have modest financial statements relative to their market value, but they possess excellent intellectual resources, efficient processes, and outstanding potential in exploding markets. These entrepreneurial companies have been able to amass astounding amounts of capital through initial public offerings of their stock or through venture capitalists.

The *Wall Street Journal* (May 16, 1996) described a relatively new company with a very small amount of financial statement assets, Amazon.com, that was able to raise significant venture capital because of its business plan to use its Internet web site to tap into a global marketplace. Customers of Amazon.com can access a million-book database, view newsgroup commentaries by authors and readers, and purchase any database book at a significant discount and with quick delivery. The novel aspect of Amazon.com is that it has created a virtual storefront on the Internet. With minimal physical assets and inventory, Amazon.com has created significant value from intellectual capital and technological innovation.

With Netscape, Amazon.com, and other highly valued entities with excellent growth potential, neither the economic substance of the entity nor its economic performance is adequately captured by current financial statements or auditing services. Such statements and services are limited in that they focus on only financial performance measurements, while ignoring performance indicators related to other equally critical success areas, i.e., processes, nonfinancial resources, and markets. The real assets of these entities are in the intellectual capabilities of human resources, the efficient and effective business processes centered around information technology, and the ability to gain a significant portion of healthy, growing markets.

A strong and expanding demand exists for a comprehensive set of business performance measurements and for professional services that will provide assurance regarding information quality in all four critical performance areas. Investors, managers, customers, and other users of business information are increasingly demanding high quality information that is relevant, reliable, timely, and in an appropriate mode and format.

ASSURANCE SERVICE INITIATIVES

In the United States, four professional groups have recently addressed the issues related to meeting this demand for assurance services. These groups include:

- The American Institute of Certified Public Accountants (AICPA) Special Committee on Financial Reporting (Jenkins Committee, 1991–93),
- The Sante Fe Assurance Visioning Conference (1993),
- The AICPA Special Committee on Assurance Services (Elliott Committee, 1994–97), and
- The American Accounting Association's Future Audit, Attest, and Assurance Services Task Force (1994–97).

Much of the impetus for assurance services originated in the work of the AICPA Special Committee on Financial Reporting, chaired by Ed Jenkins. The AICPA formed the Jenkins Committee in 1991 to address concerns about the relevance and usefulness of business reporting. Among its recommendations was a suggestion that auditors should play an enhanced assurance role regarding the overall quality of business reporting (AICPA 1994). As a follow-up to the Jenkins Committee recommendation and other demands for an enhanced auditor role, a round-table "visioning" conference was held in Sante Fe, New Mexico in 1993 with a goal of developing a vision of future assurance services. The completed "vision" from the Sante Fe Conference was presented to the AICPA Board of Directors, which generally embraced the vision and appointed the Special Committee on Assurance Services, chaired by Robert Elliott (AICPA, 1994). The Auditing Section of the AAA appointed the Future Audit, Attest, and Assurance Services Task Force in 1994 to review the work and recommendations of the Elliott Committee and to focus on the educational, research, and professional implications of future assurance services.

Of the four U.S. professional groups, the Elliott Committee has had the most significant impact on the nature of future assurance services to be offered by the accounting profession. The AICPA assurance services initiative, led by the Elliott Committee, is divided into three phases. Phase I focused on research concerning user needs for information and assurance on that information and is discussed in the Committee's brief interim report (AICPA 1995).

Phase II focused on the development of scenarios for (1) the future of current services, (2) extensions of current lines, and (3) completely new lines of service. The scenarios for future audits illustrate a dramatic shift from an old paradigm in which a set of yearly financial statements is accompanied by an annual audit report to a new paradigm in which a set of real time financial and nonfinancial information is accompanied by continuous assurance. The scenarios for extensions of current lines include assurance services related to comprehensive risk assessments, databases, comprehensive business performance measurements, Internet web sites, and ISO 9000 or ISO 14000 information. Scenarios for completely new lines include assurance services for electronic commerce, elder care, and health care performance measurement. The AICPA Internet home page, www.aicpa.org, contains information about the first two phases of the Elliott Committee work, completed in early 1997 (AICPA, 1997).

Currently, Phase III of the AICPA assurance services initiative focuses on implementing the services proposed by the Elliott Committee. Implementation efforts are directed at overcoming barriers to change, improving attitudes and competencies of assurance providers, and changing certain ethical rules, such as those concerning the definition of independence for assurance service. The AICPA has established implementation committees for each of the three proposed new assurance lines—electronic commerce, elder care, and health care performance measurement—in addition to a senior-level Assurance Services Committee to provide overall guidelines for new assurance services.

INTERNATIONAL INITIATIVES

Accounting groups in other parts of the world are also developing plans for expanding assurance services to meet new information technology needs. For example, the Canadian Institute of Chartered Accountants (CICA) has a project that addresses issues similar to those addressed by the Elliott Committee, and the accounting profession in the United Kingdom is developing an Audit Agenda that explores the extension of the audit function into selected new assurance service areas.

IFAC's International Auditing Practices Committee (IAPC) has recently explored the global extension of assurance services and has recently issued an exposure draft of a proposed International Auditing Standard, *Reporting on the Credibility of Information* (1997). This can be accessed through the IFAC Internet home page www.ifac.com.

WEBTRUSTSM—A NEW ASSURANCE SERVICE FOR INTERNET WEB SITES

An excellent example of a new assurance service with tremendous market potential is the new WebTrust^{SM} program that has recently been developed by the AICPA and the CICA. This program allows U.S. Certified Public Accountants or Canadian Chartered Accountants, with specific training and licensing in web site security, to review client web site security and issue assurance to electronic commerce customers regarding the security of related web site transactions. The WebTrust program requires the practitioner to review and test the client's electronic commerce systems and evaluate them with respect to criteria concerning three broad categories: business practice disclosures, transaction integrity, and information protection. The WebTrust seal was developed in conjunction with VeriSign, a well-respected global provider of digital authentication services. Further information about this program is available through the WebTrust button on the AICPA web home page, www.aicpa.org.

THE CHALLENGE TO ACCOUNTING EDUCATION

The new assurance services present some significant challenges for accounting and auditing education.

1. Accounting educators and their students must develop high levels of information-technology competence or risk becoming functionally obsolete. The IFAC Education Committee's International Education Guideline No. 11, *Information Technology in the Accounting Curriculum (1995)*, provides very helpful guidance for meeting this aspect of the challenge.
2. The so-called "silo-effect" of functionally separated departments is perhaps more firmly ingrained in academia than in contemporary businesses and must give way to

interdisciplinary teams that focus on the goal of a fully integrated, technologically sophisticated, educational process.

3. The discipline of **auditing** will likely be subsumed into a broader, more technologically adaptable discipline of information assurance, with less emphasis on rules promulgated by a single authoritative body and greater emphasis on adapting to broader standards issued by an array of international groups over a diverse range of information domains.
4. As with auditing, the discipline of **accounting** will also likely be subsumed into a broader, more technologically adaptable discipline of information for business decisions, with emphasis on both internal and external decision-makers. As with auditing, there will be much less emphasis on rules promulgated by a single authoritative body and greater emphasis on adapting to broader standards issued by a wider array of international groups over a diverse range of information domains.

The AAA Auditing Section Task Force on Future Audit, Attest, and Assurance Services has been reviewing the work of the Elliott Committee on an ongoing basis and is addressing the challenge to accounting educators by developing a set of responses in three areas. The first response area addresses the impact that emerging assurance services will have on the accounting and auditing curriculum and educational delivery methods. These are discussed in a Task Force working paper by Holder and Pincus (1997).

The second response area addresses research issues and opportunities presented by new assurance services. In a Task Force working paper by Carcello, Messier, and Ricchiute (1997), significant research opportunities related to future assurance services have been identified in five related areas: markets, litigation, communication, independence, and measurement.

The third response area addresses professional issues presented by the move to provide future assurance services. Although many of the proposed new assurance services fit within the current audit/attest model, others have characteristics that are quite different and that would therefore require major changes in accounting and auditing education. Some of these unique characteristics have been described in a Task Force working paper by Jaenicke and Whittington (1997, p. 2) as follows:

1. The service may be purchased by the users rather than the providers of the information.
2. Performance may require specialized knowledge that traditionally has not been part of the training and education of the CPA,
3. Assurance may be provided about the relevance of information in addition to its reliability,
4. The service may involve maintaining controls or sensory monitors,
5. The output of the service may include data analysis or interpretation, and
6. The assertion may be made by the practitioner rather than the provider of the information.
7. The Task Force is in the process of developing its report on the educational, research, and practice implications of future assurance services and is scheduled to complete its work by late 1997.

GLOBAL ISSUES FOR ASSURANCE SERVICES

Providing future assurance services in an increasingly global marketplace creates additional challenges for assurance providers and accounting educators. In the current accounting and financial reporting environment, significant differences between countries with respect to generally accepted accounting principles create barriers to raising capital across international boundaries. Arnold Schilder (1996, 102) provides a clear illustration of substantial differences between U.S. GAAP and GAAP in various countries in the European Union as follows:

> For example, in contrast to a reported profit of DM 615 million per German GAAP for fiscal 1993, Daimler-Benz reported a 1993 loss of DM 1,819 million per U.S. GAAP. On the other hand, the Swedish group Volvo reported a loss of SEK 3,466 million under Swedish GAAP but a profit of SEK 1,938 under U.S. GAAP.

If these kinds of international differences exist with respect to current GAAP for financial resources, what kinds of global differences might we expect to standards of measurement for the vastly broader array of information to be covered by future assurance services? In many respects, assurance service issues are more international and global than either accounting or auditing issues. Unlike accounting and auditing standards that historically have developed quite unique national characteristics, many assurance services, especially those related to the Internet and information technology, appear to be quite global and independent of national boundaries.

The global challenge for information providers, users, assurance providers, and educators is to curtail the tendency for each country or region to develop its own idiosyncratic standards for each type of information and assurance service. Instead, all of these groups should strive to replace such a potential patchwork mosaic of standards with an international cooperative effort to develop preemptive global standards for information quality, measurement, and assurance in areas that are crucial to world commerce. At a minimum, accounting educators need to revise our curricula and educational delivery methods to make students aware of existing international differences, of the need to reconcile these differences, and of the importance of developing global standards for the broad array of information and assurance services demanded by contemporary users.

THE NEXT LEVEL OF ASSURANCE SERVICES

The virtual reality example presented at the beginning of this article provides a futuristic setting whereby we can begin to envision how future assurance services could be provided. Philippe Mercier, the venture capitalist referred to previously, examined financial resources, markets, processes, and non-financial resources surrounding CCC's business plan without leaving his office. This scenario, while technically not feasible at present time, may be the preferred mode of business travel in the future. In order for Philippe to make an informed decision, he chose to investigate all four critical entity performance areas presented earlier.

Figure 2 graphically depicts Philippe's cyberspace journey. Philippe queried CCC's financial database, as well as the databases of potential franchisees and the CADCAM

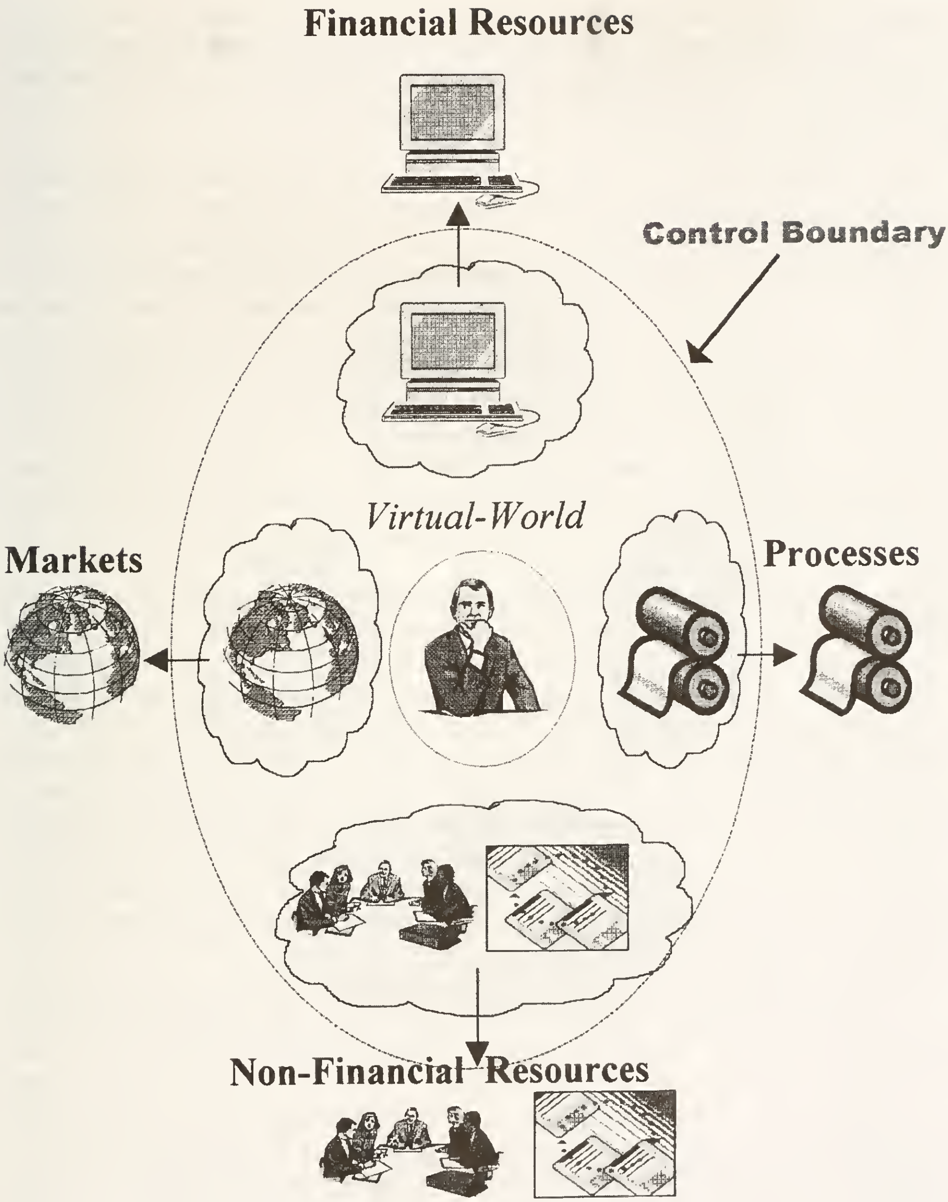

Figure 2. User View of Sensing the Real World

developers, to evaluate prior financial performance. He visited local marketing analysts in various worldwide locations and a leading expert in clothing and business suit lines to gain an understanding of potential markets. Philippe examined the production processes of CCC, potential franchisees, the Hong Kong fabric-procurement alliance, various fabric suppliers, and the CADCAM developers to assess process quality. Finally, in order to evaluate non-financial resources, he met with Sally (the owner of CCC) and her employees, owners of potential franchisees, and developers of the CADCAM equipment; additionally, he toured plants and observed equipment. Philippe is contemplating a $30 million investment based on what he experienced in virtual reality, and he paid CPA firms and other entities to provide a level of assurance that what he experienced in his virtual-world fairly represents the real-world.

Future auditors can become intricately involved in providing desired assurance services by establishing and monitoring a boundary of controls between the virtual-world and real-world (see Figure 2). The foundation for developing such a control boundary is already laid in the COBIT (Control Objectives for Information and Related Technology) framework (COBIT 1994). The COBIT framework is the result of an international collaborative effort to establish global standards and objectives for enacting and monitoring control procedures over information and technology. COBIT was sponsored by the Information Systems Audit and Control Foundation. COBIT defines control as "The policies, procedures, practices, and organisational structures, designed to provide reasonable assurance that business objectives will be achieved and that undesired events will be prevented or detected and corrected" (COBIT 1994, pg. 9). In our example, users who conduct business in virtual reality want independent, reasonable assurance that the virtual-world is fairly representative of the real world in all material respects.

COBIT delineates the following four domains: planning and organization, acquisition and implementation, delivery and support, and monitoring. All four domains can include and support the assurance services envisioned in the virtual reality scenario. For example, future auditors can work with virtual reality providers to communicate the needs and concerns of users and to assess possible risks (planning and organization). Future auditors might provide delivery and support services to providers, such as ensuring systems security, assisting and advising customers, defining service levels, and managing problems and incidents. Within the acquisition and implementation domain, future auditors can help to develop and maintain virtual reality procedures, install and accredit systems, and manage system changes. Finally, future auditors can continuously monitor virtual reality control processes and, periodically, perform substantive type testing to determine the extent to which virtual images map to real objects.

Given the current state of information technology and extant business practices, the virtual reality scenario described in this article may seem inconceivable to some accountants and auditors. However, conducting commerce over the Internet and coping with related control issues may have appeared just as implausible a mere 10 years ago. Future auditors, as compared to their today's counterparts, will likely approach these forward-looking scenarios with more of an open mind, since future auditors will be in a better position to understand the vast untapped potential of information technology. The COBIT framework, coupled with the work of the AICPA Special Committee on Assurance Services, provides a significant leap forward in guiding the accounting profession to the next level of assurance services.

SUMMARY

The assurance service initiatives described in this paper are designed to guide the accounting profession into the next century. It seems clear that, in order to survive and prosper, the profession must adapt to rapidly changing business conditions and competitive environments. Information technology is the enabling force behind such radical organizational and market transformations. One important survival strategy is to expand our concept of financial accounting, business reporting, and assurance services beyond the traditional financial arena, by including other critical entity performance areas, such as, markets, processes, and nonfinancial resources.

In this article, we take a futuristic look at assurance services that auditors might provide to users who conduct business in virtual reality. Upon close examination of the possible risks involved in this setting, the fundamental issue is that of control over information and related technology. Cyberspace users will want reasonable assurance that their virtual-world fairly represents its real-world counterpart.

An analogy to piloting an airplane seems appropriate. When flying an airplane, it is possible to slow the aircraft to a minimal, critical airspeed where a stall becomes imminent. At this point, a pilot attempts to increase airspeed by applying full power and lowering the nose of the plane. However, under certain circumstances, particularly when there is insufficient remaining altitude, there is not enough power to pull the airplane out of the stall situation. As a result, the plane can catapult into the ground. This phenomenon is called "getting behind the power curve."

At times, it seems as though accounting practitioners and educators often find themselves behind the power curve, particularly in the domain of information technology. That is, a new technology, such as Internet commerce, blossoms into practice and then accounting professionals and educators begin worrying about how to apply appropriate controls in this new environment. It would behoove educators to envision potential information technology applications and assurance services, such as virtual reality, before they are integrated into business practice. This would provide a degree of lead-time during which educators and accounting professionals can act proactively to assess potential risks and design appropriate control procedures.

This is clearly a global challenge to accounting educators, as the influence of information technology penetrates ever so deeply into international business practice. In this regard, let us not find ourselves behind the information technology power curve, for the very survival of accounting education and of the accounting profession may well rest on the ability to envision the future and adapt to the demands of the global marketplace.

NOTE

Adapted from a paper presented at The Eighth World Congress of Accounting Educators and the International Association of Accounting Educators and Researchers (IAAER), Paris, France, October 23–25, 1997. Please do not quote without permission.

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The International
Journal of
Accounting

Accounting Income, Income Components and Market-to-Book Equity Ratios: Finnish Evidence

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Key Words: Accounting income; Income components; Market-to-book equity ratios; Finland

Abstract: *This study provides new evidence on the relationship between various income-to-book and market-to-book equity ratios using Finnish data. Because of extremely wide earnings management possibilities that are tractable from published financial statements, Finland provides a unique environment to test the importance of income management in creating investors' cash flow expectations. The findings suggest that income statement items other than "bottom-line" earnings contain useful information when investors are creating cash flow expectations for Finnish firms. This holds especially for income components that can be regarded permanent. It also appears that the income management component of earnings has low value-relevance. This is the case also for extraordinary income/expenses, which can be regarded as transitory by nature. The findings of the study further suggest that in none of the various income levels investigated is negative accounting income significantly positively related to the market-to-book equity ratios. If income is positive, however, the positive relationship exists. These findings support the hypothesis that investors regard accounting losses as temporary, not reflecting future cash flow expectations. In general, the results of the study indicate that investors split accounting earnings into components and evaluate the value-relevancy of income statement items when creating cash flow expectations for firms.*

ACCOUNTING INCOME, INCOME COMPONENTS AND MARKET-TO-BOOK EQUITY RATIOS: FINNISH EVIDENCE

In recent years empirical studies relating stock prices and returns to accounting earnings have increasingly suggested that accounting earnings should be split into components to better understand how the stock market uses the information content in income statements (see e.g., Lipe, 1986; Livnat & Zarowin, 1990; Ohlson & Penman, 1992; Ramakrishnan & Thomas, 1995). Following these lines, this study aims to ascertain which income levels and components are related to market-to-book equity (MTB) ratios. These relationships are of importance from the accounting perspective, because the MTB ratio can theoretically be

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The International Journal of Accounting, Vol. 33, No. 3, pp. 359-375 **ISSN: 0020-7063.**

shown to measure investors' growth expectations and to be positively related to persistent accounting earnings (see Fama & French, 1995). Therefore, by investigating the relationship between the MTB ratio and accounting income and its components, it is possible to study how investors exploit accounting data when they are forming cash flow expectations for firms. Moreover, for instance, Fama and French (1992, 1993, 1996) suggest that the MTB ratio captures much of the cross-section of average stock returns.[1] As a consequence, the MTB ratio may be useful for creating profitable trading strategies in stock markets. Therefore, the economic fundamentals of the MTB ratio are obviously of great interest among the investment community.

This study addresses three closely related research questions:

1. Do income levels other than the "bottom-line" earnings contain value-relevant information in Finland ?
2. When disaggregating net income into individual income statement items, which of these items are most important and do these items contain incremental information to each other ?
3. Are accounting losses and profits valued differently in the Finnish stock market?

The current paper contributes to the existing literature in five main respects. First, previous evidence regarding the relationships between the MTB ratios and accounting income or its components is limited. Fama and French (1995) measure the relationship between MTB and income-to-book (ITB) equity ratios by using a sample of firms listed on the New York Stock Exchange.[2] The income level used to measure the ITB ratios is primary annual earnings before extraordinary items. Their empirical analysis studying the profitability of six portfolios based on the MTB ratios indicates that high MTB stocks appear more profitable than low MTB stocks for four years before and at least five years after ranking dates. These results are recently confirmed by Martikainen (1998a) in different size and financial leverage portfolios. While Fama and French (1995) use only one income level, i.e. primary annual earnings before extraordinary items, this paper calculates the ITB ratios by using six alternative income levels to determine the numerator of the ratio. The results suggest that various income levels are important in generating investors' cash flow expectations in Finland. Moreover, it appears that the different income levels have incremental information content in combination with one another. The results are in accordance with earlier studies investigating the relationship between stock returns and earnings in various markets, suggesting that several income levels may be important to investors (see, for instance, U.S. by Livnat & Zarowin, 1990; U.K. by Ali & Pope, 1995; and Finland by Booth, Kallunki & Martikainen, 1997).

Second, this study investigates the importance of different income statement items in creating income levels and forming cash flow expectations for firms. The breakdown of accounting income into components indicates that various components of accounting income are important in creating investors' cash flow expectations. This again suggests that income statements contain several relevant figures to investors, rather than only the "bottom-line" figure. The results also indicate that the income management component of accounting earnings is not significantly reflected in the MTB ratio. This is in accordance with the notion by Ramakrishnan and Thomas (1995), among others, that the existence of income management may lead to value-irrelevant components of earnings. Moreover, extraordinary income and expenses are not found to be related to the MTB ratios in Finland, obviously because of their temporary nature.

The third contribution of the current paper is that it extends the study by Fama and French (1995), who do not pay attention to the phenomenon that negative earnings may be more temporary than positive earnings and consequently have less effect on MTB ratios. The current study delineates between profits and losses, because Hayn (1995) and Martikainen (1997) suggest that accounting losses, i.e. negative earnings, can be regarded as transitory by nature.[3] This is because shareholders have a liquidation (put) option on the future cash flows of the firm, i.e. they have the opportunity to sell their shares at a price equal to the net asset assets of the firm. We find no positive relationship between the MTB and ITB ratios if earnings are negative. Therefore, the results support the hypothesis that accounting losses are temporary and are not reflected in cash flow expectations.

Fourth, the empirical results by Hayn (1995) and Martikainen (1997) give support to the temporary nature of accounting losses, in the context of earnings response coefficients (ERCs), when primary annual earnings before extraordinary items are used to measure income. The current investigation contributes to their studies by adding five more income levels to the analysis of the transitory nature of losses. It appears that, while losses are temporary in all income levels, there are also significant differences across different income levels in this respect, obviously because the temporary nature of different income components varies.

Fifth, while Fama and French (1995) and Martikainen (1997) use U.S. data in their analysis, this paper exploits Finnish data. This makes it possible to investigate whether the relationship between MTB and ITB ratios is an international phenomenon rather than idiosyncratic to the U.S. Our findings suggest that even in Finland, where accounting rules are very different from major countries and stock markets are relatively undeveloped, investors exploit accounting data to form cash flow expectations for Finnish firms. Moreover, in this process, investors seem to split accounting earnings into components by taking into account the value-relevancy of various income statement items.

The remainder of this article is organized as follows. The next section provides the theoretical background for the paper. The paper then proceeds by providing descriptions of the Finnish accounting system and income components used in the study. The next section of the paper describes the data. The fifth section offers the empirical results on various income levels and their components as determinants of the MTB ratios. Finally, conclusions and implications of the paper are provided in Section VI.

HYPOTHESIS DEVELOPMENT

To explain the relationship between the MTB ratio, growth expectations and accounting income, we apply the notations of Fama and French (1995). For the sake of simplicity, let us assume an all equity-firm that finances its investments solely with retained earnings. In this case dividends for year t, D_t, are

$$D_t = EI_t + DP_t - I_t,$$

where EI_t equals equity income, depreciation is noted with DP_t, and investment outlays with I_t. Let us further assume that at time t expected depreciation and investment for any year $t+i$ are proportional to expected future equity income, that is,

$$E_t D_{t+i} = E_t\,[EI_{t+i} + DP_{t+i} - I_{t+i}] = E_t\,EI_{t+i}\,(1+k_1-k_2), \tag{2}$$

where k_1 and k_2 are the proportionality factors. If the discount rate, r, is constant, the market value of equity for year t, ME_t, equals

$$ME_t = (1 + k_1 - k_2) \sum_{i=1}^{\infty} \frac{E_t EI_{t+i}}{(i+r)^i}. \tag{3}$$

Consequently, the *MTB* ratio, ME_t / BE_t, is

$$MTB_t = (1 + k_1 - k_2) \sum_{i=1}^{\infty} \frac{E_t EI_{t+i}/BE_t}{(i+r)^i}. \tag{4}$$

Equation 4 shows that the MTB ratio can be interpreted as a measure of the market's expectations of growth opportunities. This is because the MTB ratio increases with the expectations on equity income (see also Collins & Kothari, 1989).

To better understand the link between stock prices and accounting earnings, the recent accounting literature splits earnings figures into various components. For instance, Ramakrishnan and Thomas (1995) suggest that earnings consist of permanent, transitory and price-irrelevant components.[4] Permanent shocks are shocks that continue into the future and, therefore, have a large price effect. Transitory (temporary) shocks do not persist beyond this period, leading to a lower price reaction. The price-irrelevant components of earnings are defined as the difference between the reported earnings and price-relevant earnings. For price-irrelevant shocks no price reaction exists. Ramakrishnan and Thomas (1995) note that these three types of shocks are unlikely to completely describe reported earnings, but definitely help us to better describe the relationship between stock prices and accounting earnings. Equations 3 and 4 suggest that the MTB ratio is positively related to persistent accounting income, while temporarily high or low accounting income do not have a significant effect on the MTB ratio. Therefore, we hypothesize that permanent income components are significantly related to the MTB ratio, while the transitory and price-irrelevant components are not.

As noted by Hayn (1995) and Martikainen (1997), among others, it can be further hypothesized that accounting losses are temporary and, therefore, bear less weight than accounting profits when investors are forming their cash flow expectations. This is because the equity holders have a put option on the future cash flows of the firm. Consequently, the investors have the opportunity to sell their shares at the price of the market value of the net assets of the firm. Based on this put option, accounting losses cannot be expected to continue infinitely. The notion of the liquidation option adding to the firm value is also discussed, for instance, by Robichek and VanHorne (1967), Myers and Majd (1990) and Berger, Ofek and Swary (1996). Therefore, we also hypothesize that negative income levels are less persistent than the positive ones, and, therefore, have less effect on MTB ratios than the latter.

MEASURING INCOME IN FINLAND

Finnish Income Statements

Next we turn to describing the Finnish accounting rules and income statements to discuss what income components can be regarded as permanent, temporary or price- irrelevant in Finland. For this purpose, it is necessary to first briefly describe Finnish accounting practices. A continental accounting framework based on a civil law tradition has been diffused from Germany, via Sweden, to the other Nordic (Norway, Denmark, Finland, Iceland) countries in varying degrees (see Monsen & Wallace, 1995). In particular, the government has been a strong accounting regulator in Norway and Finland. This similarity aside, however, Finland deviates from the other Nordic countries by employing the expenditure-revenue theory of accounting developed by Professor Martti Saario in the 1950s (see Saario, 1959). As noted by Lukka and Pihlanto (1994), this theory has maintained its position as the foundation of accounting thinking in Finland, despite many pressures, such as the harmonization development within the EU.

The expenditure-revenue theory underlying Finnish accounting rules takes an unconventional approach to the going concern convention, and develops the accounting model starting from the income concept rather than the internationally more common expansion from the balance sheet concept (see Salmi, 1994). As a consequence, income statements play a key role in the Finnish accounting system, while the balance sheets and other fund statement summations merely act as "transfer accounts" from one year to the next. The Accounting Act, the Business Tax Act and the Companies Act set the requirements for income statements for corporations. In addition, listed firms have to follow the Securities Market Act and the rules and regulations of the Helsinki Stock Exchange (HSE). Although the legislation stipulates a fixed scheme for the reported income figures, accounting conventions and principles significantly affect the income figures. Therefore, firms usually follow the Business Tax Act, which is more restrictive, but still gives ample discretion to determine annual taxable net income. As a result, Finnish financial reporting is often criticized for providing "tax minimization" rather than "economic reality" statements (see e.g., Troberg, 1992).

Table 1 provides a stylized income statement for Finnish firms. One of the most significant differences between the income statements prepared following the Finnish bookkeeping legislation and the International Accounting Standards (IAS) recommendations concerns depreciation.[5] Although the Accounting Act neither regulates the amount of annual depreciation, nor specifies any particular depreciation method, the Business Tax Act contains detailed instructions on the maximum depreciation rates for machinery (30 percent) and buildings (5–20 percent, depending on the material used in the construction). The companies listed on the HSE currently report two types of depreciation: depreciation according to plan and "tax" depreciation. Depreciation according to plan is based on the management's evaluation of the economic life of an asset, straight-line depreciation being the most common approach. Regarding reported earnings, firms can in principle select any depreciation level between zero and the maximum depreciation rate. The depreciation method applied here is an accelerated depreciation method known as the declining balance method of depreciation, by which the maximum percentages are applied against declining book values.

In addition to depreciation, Finnish reserves are another major difference in the Finnish accounting system from the international perspective. This is because Finnish firms are allowed to create untaxed reserves for future expenditures and losses. Examples of these are the inventory reserve, bad debt reserve, operational reserve, warranty reserve and investment reserves. The maximum levels of reserves have changed over the years, but, for instance, in 1989 the maximum acceptable reserve was 35 percent of inventories, valued at variable cost. Forming an inventory reserve means that companies transfer, in addition to the costs of goods sold, extra inventory expenses to the income statement.

As shown above, Finnish accounting earnings may be considered managed earnings to a larger extent than in most other countries. Earnings management is common among Finnish firms to save taxes and pay constant dividends required by large institutional owners (see Kasanen, Kinnunen & Niskanen, 1997). Therefore, Finnish financial analysts aim to adjust firms' reported earnings to better describe "economic reality." As an illustrative example, the widely used databank by the Research Institute of the Finnish Economy

Table 1. Income Statement Based on Finnish Accounting Legislation

NET SALES
Costs and expenses
Materials and supplies
Wages and salaries
Personnel costs
Rents
Other costs and expenses
Production for own use
Change in inventories
OPERATING MARGIN
Depreciation according to plan
Buildings
Machinery and equipment
Intangible assets
OPERATING PROFIT
Financial income and expenses
Interest income
Other financial income
Interest expenses
Other financial expenses
PROFIT AFTER FINANCIAL INCOME AND EXPENSES
Other income and expenses
Other income
Other expenses
PROFIT BEFORE APPROPRIATIONS AND TAXES
Depreciation in excess of plan
Change in reserves
Taxes
NET PROFIT

Table 2. Adjusted Finnish Income Statement

NET SALES	(SAL)
Materials and supplies	
Wages and salaries	
Personnel costs	
Change in pension fund liabilities	
Rents	
Other costs and expenses	
Production for own use	
Change in inventories	
OPERATING INCOME	(OPE)
Financial expenses	
Financial income	
Taxes	
Other expenses	
Other income	
INCOME AFTER FINANCIAL INCOME AND EXPENSES	(FIN)
Depreciation according to plan	
NET INCOME	(NET)
Extraordinary expenses	
Extraordinary income	
ADJUSTED INCOME	(ADJ)
Depreciation in excess of plan	
Changes in reserves	
Change in pension fund liabilities	
NET PROFIT	(REP)

(ETLA) is compiled in accordance with the recommendations of the Corporate Committee for Financial Analysis (see Yritystutkimusneuvottelukunta, 1993). The income statements of Finnish firms are adjusted as shown in Table 2. Net sales (SAL) is the same in ETLA databank and in the income statement based on the Finnish bookkeeping legislation. Because Finnish firms do not have to record their pension liabilities contributed to pension foundations on accrual basis, these can affect reported earnings. Therefore, Operating Income (OPE) is adjusted by taking into account the annual change in pension liabilities. OPE is followed by Income After Financial Income And Expenses (FIN) in the adjusted income statement. FIN measures how much income a firm has produced to cover new investments, increase in working capital and distribution of profit. When calculating Net Income (NET), depreciation according to plan is used in ETLA's databank. Adjusted Income (ADJ) is then obtained by subtracting (adding) extraordinary expenses (income). The difference between the net profit in the income statement based on Finnish accounting legislation (REP) and ADJ is, therefore, the result of changes in pension liabilities, reserves and depreciation, as shown in Table 2.[6]

Estimating Permanent, Transitory and Price-Irrelevant Components

As noted earlier, Ramakrishnan and Thomas (1995) suggest that earnings consist of permanent, transitory and price-irrelevant components. To estimate these components from Finnish financial statements, we split the six income levels in adjusted income statements into five parts: INC1 (SAL-OPE), INC2 (OPE-FIN), INC3 (FIN-NET), INC4 (NET-ADJ) and INC5 (ADJ-REP), and then investigate their ability to explain the variation in MTB ratios by using the framework by Ramakrishnan and Thomas (1995).

The definition of permanent income component is that it continues into the future. Using the above definitions, we assume that INC1, INC2 and INC3 are related to the firms' economic process in the long run, and are likely to be significantly related to firms' cash flows in the future. Therefore, we assume that these components are related to the MTB ratios, i.e. investors use them when creating cash flow expectations for Finnish firms.

As noted above, transitory (temporary) income does not persist beyond this period. In the ETLA's classification, extraordinary expenses and income fit to this definition. Therefore, INC4 can be regarded as transitory, and no significant relation between INC4 and the MTB ratios is, therefore, expected.

In the Ramakrishnan and Thomas (1995) framework, price-irrelevant earnings components are defined as the difference between reported and price-relevant earnings. One of the most likely reasons for the existence of this component is income management. This is because the managers have an opportunity to smooth reported income by selecting a price-irrelevant accrual that is negatively related to the observed values of price-relevant shocks. Alternatively, firms may manage accounting accruals to shift revenues and expenses between adjacent periods. In ETLA's income statement the difference between reported earnings (REP) and the earnings corrected for income management (ADJ), i.e. INC5, represents a major part of the income management possibilities. Therefore, we expect that INC5 is not related to the MTB ratios.[7]

THE DATA

Sample Description

The sample includes 250 firm-year observations of data for all Finnish firms that were listed during the 1987-1994 period on the HSE. Financial firms (banks and insurance companies) are excluded because of their different accounting practices. Since all firms are not listed continuously, the number of annual observations varies between 21 and 38, as shown in Table 3. The financial statement data are obtained from the data base published by ETLA. Six income levels, i.e. SAL, OPE, FIN, NET, ADJ and REP described in Table 2 are used in the analysis. Moreover, data on the book and market value of equity is gathered to calculate the MTB ratios.

The HSE is a small market comprised of stocks that have smaller market value and less trading than the stocks in major European markets. Despite its small size, HSE has received a lot of attention by researchers in recent years. Kallunki et al. (1997) review Finnish stock market research and point out that the behavior of the Finnish market is in many respects similar to major markets. In accordance with the earlier U.S. findings by Foster, Olsen and Shevlin (1984) and Bernard and Thomas (1990), among others, it appears that the Finnish stock market may not behave efficiently, in terms of not being able to correctly interpret all accounting information. This is one factor that may weaken the observed relationships between MTB and ITB ratios, and should be recognized when interpreting the results of the study.

Table 3. Means of ITB Ratios and Frequency of Losses on Different Income Levels

	Year							
Income Level	*1987*	*1988*	*1989*	*1990*	*1991*	*1992*	*1993*	*1994*
Number of Observations	21	27	29	29	38	37	34	35
SAL	3.303	3.230	3.024	2.616	2.885	3.440	4.418	2.861
	[0]	[0]	[0]	[0]	[0]	[0]	[0]	[0]
OPE	0.358	0.361	0.322	0.203	0.181	0.274	0.512	0.345
	[0]	[0]	[0]	[1]	[3]	[2]	[2]	[1]
FIN	0.259	0.297	0.256	0.119	0.047	0.091	0.265	0.244
	[0]	[0]	[0]	[3]	[11]	[7]	[3]	[1]
NET	0.131	0.164	0.126	-0.006	-0.105	-0.097	0.033	0.097
	[0]	[1]	[1]	[12]	[24]	[20]	[7]	[4]
ADJ	0.162	0.305	0.126	0.021	-0.077	-0.108	0.009	0.058
	[0]	[1]	[3]	[8]	[21]	[19]	[8]	[5]
REP	0.068	0.099	0.048	0.027	-0.045	-0.048	0.053	0.146
	[0]	[1]	[6]	[8]	[15]	[16]	[6]	[7]

Notes: SAL = sales, OPE = operating income, FIN = income after financial income and expenses, NET = net income, ADJ = adjusted income, REP = net profit. All income levels based on ETLA's data bank, see Table 2. In brackets are the number of losses.

Various studies suggest that there exist significant problems when returns on short intervals, such as days are used to analyze Finnish stock returns. This is obviously because of thin trading in the HSE. To illustrate, Booth, Kallunki and Martikainen (1996) report that one-third of the stocks were not traded during their earnings announcement day in the HSE in 1989-1993. Since we use annual accounting income and market value data in this paper, the problems of nonsynchronous trading are not assumed to be serious in the current study.[8]

Data Analysis

Table 3 provides the average ITB ratios for the six alternative income levels separately for each year investigated. To calculate the ITB ratios, the six income levels are divided by the beginning-of-the-year book value of equity. Therefore, the ITB ratios can be regarded as accounting-based profitability measurements. The figures in Table 3 support the earlier Finnish findings by Booth, Kallunki and Martikainen (1997) and Kasanen, Kinnunen and Niskanen (1997) that the variability of reported earnings over time is lower than that of adjusted earnings. While the range for the average REP is from -0.045 to 0.145, the respective figure for ADJ is from -0.108 to 0.304. This is in accordance with the assumption that Finnish accountants intentionally smooth reported accounting income to soften the effect of hard times upon income and, conversely, in order to diminish the extent to which good times are contemporaneously reflected in reported earnings. This earnings management behavior of Finnish firms is strengthened, because firms want to save taxes and pay constant dividends to their shareholders.

Table 3 also reports the frequency of losses for different income levels. Of course, sales are never negative, but losses appear in all other income levels. Losses take place seldom

Table 4. Pearson Correlation Coefficients Between Income Components Deflated by The Beginning-of-the-year Book Value of Equity

	INC1/ BOOK	*INC2/ BOOK*	*INC3/ BOOK*	*INC4/ BOOK*	*INC5/ BOOK*
INC1/	1.000	0.688	0.812	-0.031	0.046
BOOK		(0.000)	(0.000)	(0.620)	(0.464)
INC2/		1.000	0.897	-0.011	-0.097
BOOK			(0.000)	(0.858)	(0.127)
INC3/			1.000	-0.042	0.003
BOOK				(0.508)	(0.962)
INC4/				1.000	-0.745
BOOK					(0.000)
INC5/					1.000
BOOK					

Notes: INC1 = SAL-OPE; INC2 = OPE - FIN; INC3 = FIN-NET; INC4 = NET-ADJ; and INC5 = ADJ-REP, when SAL = sales, OPE = operating income, FIN = income after financial income and expenses, NET = net income, ADJ = adjusted income, REP = net profit based on ETLA's databank (see Table 2). BOOK is the book value of equity in the beginning of the year. Probability values are in parentheses. The number of observations is 250.

in the OPE level, but are already much common for FIN, which takes into account interests and taxes. For NET, ADJ and REP losses appear in 69, 65 and 59 firm-years, i.e. in 23.6-27.6 percent of the observations. This proportion is considerably higher than that reported by Hayn (1995) for U.S. firms. The large number of losses in Finnish data is largely due to the severe economic recession in the beginning of the 1990s, which followed the collapse of the Soviet Union, formerly the most important trading partner of Finland. To investigate whether the results of this study are time-sensitive because of the extremely deep recession, the regression models of the study were re-estimated using annual dummy variables for years 1990-1992. The results that are obtainable from the authors upon request suggest that the main conlusions of the study are not affected by this recession.

Table 4 provides the Pearson correlation matrix between income components deflated by the beginning-of-the-year book value of equity. It appears that INC1, INC2 and INC3 are all positively correlated with each other. This is consistent with our hypothesis stated earlier that all these components are likely to be permanent and continue into the future. The component of extraordinary income/expenses, i.e. INC4, is not related to INC1, INC2 or INC3. This supports the hypothesis of the transitory nature of this component.

The earnings management component, INC5, is not related to INC1, INC2 and INC3, but has a highly significant negative correlation, i.e. -0.745, with INC4. This is apparently because managers aim to manage reported earnings downwards in the case of large transitory income and upwards in the case of large transitory expenses. These correlations support the notion by Ramakrishnan and Thomas (1995) that earnings management is not related to permanent income and is not likely to cause a large price effect in the market. It also highlights the notion by Dechow, Sloan and Sweeeney (1995) that taking into account the possible extreme financial performance of firms is essential when studying earnings management and its implications.

EMPIRICAL RESULTS

Relationship between MTB and ITB Ratios

To investigate the relationship between the MTB and ITB ratios, the following regression is estimated:

$$MTB_{it} = a_0 + a_1\, DP_{it}\, ITB_{it} + a_2\, DL_{it}\, ITB_{it} + e_{it}, \tag{5}$$

where MTB_{it} is the market-to-book equity ratio for firm i in April of the year t+1 and ITB_{it} is the income-to-book equity ratio (accounting income for year t divided by the book value of equity at the beginning of year t) of the same firm. Accounting income is calculated either as SAL, OPE, FIN, NET, ADJ or REP as described in Table 2. The terms DP_{it} and DL_{it} are dummy variables having a value of one in case firm i's earnings are positive and negative, respectively, and zero otherwise. The terms a_j and e_{it} are estimated regression parameters. Restricted models (see e.g., Judge et al., 1988) are used to study whether the parameter estimates are different for positive and negative accounting income. The null hypothesis tested is that there is no difference in the estimates for a given income level. The null hypothesis is rejected when the restriction parameter is significant.

Table 5. Relationship between MTB and ITB Ratios in Different Income Levels

Income level	*Intercept* a_0	*Relationship when ITB>0* a_1	*Relationship when ITB<0* a_2	*F-value for restriction* $a_1 = a_2$	R^2	*F*
SAL	1.026	0.013			0.004	0.974
	(0.000)	(0.325)				(0.325)
OPE	1.017	0.112	-1.200	9.279	0.038	4.831
	(0.000)	(0.164)	(0.004)	(0.003)		(0.009)
FIN	0.959	0.431	-2.163	8.663	0.048	6.172
	(0.000)	(0.003)	(0.032)	(0.004)		(0.002)
NET	0.943	1.265	-0.150	11.163	0.079	10.638
	(0.000)	(0.579)	(0.001)	(0.000)		(0.000)
ADJ	0.946	0.911	-0.342	13.278	0.069	9.132
	(0.000)	(0.000)	(0.139)	(0.000)		(0.000)
REP	0.982	0.950	-0.291	9.208	0.061	8.053
	(0.000)	(0.000)	(0.341)	(0.003)		(0.000)

Notes: The following regression is estimated separately for each income level:

$$MTB_{it} = a_0 + a_1\, DP_{it}\, ITB_{it} + a_2\, DL_{it}\, ITB_{it} + e_{it},$$

where MTB_{it} is the market-to-book equity ratio for firm i in April of the year t+1 and ITB_{it} is the income-to-book equity ratio (accounting income for year t divided by the book value of equity at the beginning of year t) of the same firm. Accounting income is calculated either as SAL, OPE, FIN, NET, ADJ or REP as described in Table 2. DP_{it} and DL_{it} are dummy variables having a value of one in case firm i's earnings are positive and negative, respectively. a_0, a_j, b_j and e_{it} are estimated regression parameters. Restricted models are used to study whether the parameter estimates are different for positive and negative accounting income. The null hypothesis tested is that there is no difference in the estimates for a given income level. The null hypothesis is rejected when the restriction parameter is significant. Chi-square tests (see White, 1980) indicate no significant problems due to heteroskedasticity. Probability values are in parentheses.

To estimate equation (5), income levels rather than their differences are employed. This is done because of three main reasons. First, the theoretical analysis by Ramakrishnan and Thomas (1995) supports the use of levels rather than differences to split income into components when investigating their information content. Second, the recent evidence by Martikainen, Kallunki and Perttunen (1997) suggests that earnings levels are more informative than differences in explaining Finnish stock returns. Third, this analysis makes our results comparable to those of Fama and French (1995).

Table 5 presents the regression results for the six alternative income levels. For profits, the positive relationship between the MTB and ITB ratios holds irrespective of which income level is used in the analysis. The relationship is statistically significant for four "bottom" income levels, i.e. FIN, NET, ADJ and REP. This suggests that positive income levels are used by investors when they are creating cash flow expectations for Finnish firms. It is also consistent with the earlier findings that income levels other than "bottom-line" earnings are important for investors. For OPE and SAL the observed relationship remains insignificant. This may be bacause these income levels exclude, for instance, financial expenses that are important determinants of cash flows.

For negative income levels, a statistically significant positive relationship between MTB and ITB ratios exists in none of the five income levels for which losses take place. For OPE and FIN, the relationship is significantly negative. One plausible explanation for this phenomenon is that the firms that are reporting losses even before taking into account depreciation and extraordinary items, are likely to improve their earnings considerably in the future. This is because otherwise they would not be able to survive and owners would use their put option on the net assets of the firm. This explanation is in line with some previous U.S. studies that, in certain conditions, earnings behave as a mean-reverting process. In particular, periods with extreme changes in earnings have been found to be followed by periods of earnings changes in the opposite direction (see, for instance, Beaver, Lambert & Morse, 1980; Freeman, Ohlson & Penman, 1982).

The restrictions confirm that the parameter estimates are different for positive and negative accounting income, irrespective of which income level is used in the analysis. Therefore, the results support the assumption that negative accounting earnings decrease earnings persistence and, consequently, affect investors' cash flow expectations differently than positive earnings.

Incremental Importance of Income Statement Items

The theoretical analysis above suggests that accounting income is value-relevant if it is permanent. Because accounting income is obtained by subtracting relevant costs and expenses from sales, it interesting to empirically study which of the individual income statement items are so permanent that they are important in generating market values of shares. Rather than investigating the information content of the different income statement items individually, we report the results for their incremental information content. This is because, as noted by Dechow, Sloan and Sweeney (1995), it is necessary to take into account the underlying financial performance when studying individual earnings components, such as earnings management. Therefore, the following regression is estimated:

$$MTB_{it} = b_0 + b_1 SAL_{it}/BOOK_{i,t-1} + \sum_{j=1}^{5} g_j(INCj_{it}/BOOK_{i,t-1}) + e_{it}, \tag{6}$$

where MTB_{it} is the market-to-book equity ratio for firm i in April of the year t+1 and SAL_{it} is the net sales of the same firm in year t. In addition, the five accounting income components as described in Table 2, INC1–INC5, are included as explanatory variables deflated by the beginning-of-the-year book value of equity. The terms b_0, b_1, g_j and e_{it} are estimated regression parameters.

The estimation results for model (6) are provided in Table 6. The R^2 of the model is 9.0 percent, which is economically low, but in line with earlier U.S. studies using annual earnings windows. The F-value of the regression is highly significant (p = 0.001), suggesting that the accounting variables are significantly related to investors' growth expectations. The three income components, INC1, INC2 and INC3 are negatively related to the MTB ratio. It, therefore, appears that an increase in these costs leads to lower cash flow expectations. This is consistent with the assumption discussed above that these components can be assumed to be permanent by nature.

The extraordinary income/expense component, INC4, is not significantly related to the MTB ratio. This is in accordance with the a priori hypothesis that this component is regarded as transitory by investors. Moreover, INC5 remains insignificant in the regression, supporting the assumption by Ramakrishnan and Thomas (1995) that earnings management is value-irrelevant for investors.

CONCLUSIONS AND IMPLICATIONS

This study investigates which income levels and components are related to the market-to-book equity ratios in Finland. The findings of the empirical analysis suggest that income statement items other than "bottom-line" earnings contain useful information when inves-

Table 6. Incremental Importance of Income Components

	Intercept	*SAL/ BOOK*	*INC1/ BOOK*	*INC2/ BOOK*	*INC3/ BOOK*	*INC4/ BOOK*	*INC5/ BOOK*	R^2	*F*
MTB	1.046	0.718	-0.648	-0.998	-1.748	0.352	-0.045	0.090	3.984
	(0.000)	(0.000)	(0.001)	(0.026)	(0.026)	(0.458)	(0.890)	(0.001)	

Notes: The following regression is estimated:

$$MTB_{it} = b_0 + b_1 SAL_{it}/BOOK_{i,t-1} + \sum_{j=1}^{5} g_j(INCj_{it}/BOOK_{i,t-1}) + e_{it},$$

where MTB_{it} is the market-to-book equity ratio for firm i in April of the year t+1 and SAL_{it} is the net of the same firm in year t. In addition, the five accounting income components INC1 - INC5 are included as explanatory variables deflated by the beginning-of-the-year book value of equity. b_0, b_1, g_j and e_{it} are estimated regression parameters. Probability values are in parentheses. The number of observations is 250. Chi-square tests (see White, 1980) do not indicate any significant problems due to heteroskedasticity.

tors are creating cash flow expectations for Finnish firms. This holds especially for income components that can be regarded permanent. Because of the wide earnings management possibilities provided by the Finnish accounting rules, the Finnish data also provides an opportunity to test the importance of income management in creating investors' cash flow expectations. It appears that the income management component of earnings is value-irrelevant. This is the case also for extraordinary income/expenses, which can be regarded as temporary by nature. The findings of the study further suggest that in none of the various income levels investigated is negative accounting income significantly positively related to the market-to-book equity ratios. If income is positive, however, the positive relationship exists. These findings support the hypothesis that investors regard accounting losses as temporary, not reflecting future cash flow expectations.

To sum up, the results of this study indicate that investors split accounting earnings into components and evaluate the temporary nature of income statement items when creating cash flow expectations for firms. Therefore, to better understand the relationships between accounting variables and stock market data, it is useful to split accounting income into components. All of our evidence suggests that the framework by Ramakrishnan and Thomas (1995) of spliting earnings into permanent, transitory and price-irrelevant components seems plausible and helps us to better understand how the stock market uses accounting data.

NOTES

1. See also Rosenberg, Reid and Lanstain (1985), DeBondt and Thaler (1987), Chan, Hamao and Lakonishok (1991), Lakonishok, Schleifer and Vishny (1994), Davis (1994), and Daniel and Titman (1997), among others, for similar findings. See also Kothari, Shanken and Sloan (1995) for a discussion of some potential reasons explaining the effect
2. As a matter of fact, Fama and French (1995) use the reciprocal of the MTB ratio, i.e. the book-to-market equity (BTM) ratio in their analysis. Since the MTB ratio is positively related to growth expectations, it is selected for this study. The conclusions of the study are, of course, not affected because of this selection. While Fama and French (1995) call their profitability measure an earnings-to-book (ETB) ratio, we refer it as the income-to-book (ITB) ratio because of the various income levels used to measure this ratio in this study.
3. See also e.g., Beaver, Lambert and Morse (1980), Beaver, Lambert and Ryan (1987), Ohlson (1989), and Ohlson (1990) suggesting that accounting earnings include temporary components.
4. The definitions of the nature of income components vary in the literature. Price-irrelevant components are often called garbling or measurement errors, representing the difference between reported and economic earnings. Sometimes the terms price-irrelevant and transitory (temporary) are used interchangeably (see Ramakrishnan & Thomas, 1995, for discussion).
5. See Niskanen, Kasanen and Kinnunen (1994) for a more detailed comparison between Finnish and IAS profits.
6. In practice, however, most of the difference may be attributed to different methods of depreciation (see Booth, Kallunki & Martikainen, 1997).
7. As noted by Ramakrishnan and Thomas (1995), another reason for the existence of price-irrelevant components may be that stock prices lead accounting earnings. This phenomenon exists because accounting emphasizes historical costs and transaction-based accounting (see e.g., Collins et al., 1994)

8. Regarding ERCs, earlier evidence suggests that ERCs are positive and statistically significant in Finland (see e.g, Martikainen, Yli-Olli & Gunasekaran, 1993; Niskanen, Kasanen & Kinnunen, 1994; Martikainen, Kallunki & Perttunen, 1997). Moreover, event studies suggest that stock prices react to the release of accounting information (see e.g., Booth, Kallunki & Martikainen, 1996, 1997; Kallunki, 1996; Martikainen, 1997c).

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The International
Journal of
Accounting

Equity Returns: Local GAAP versus U.S. GAAP for Foreign Issuers from Developing Countries

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Key Words: Accounting and financial reporting standards: Developing countries: GAAP reconciliations; Equity returns

Abstract: *The number of foreign firms from developing countries with common stock listings on the New York and American Stock exchanges has been rapidly increasing. This provides motivation to study the accounting issues faced by foreign issuers from developing countries. Among the important reporting issues is the reconciliation between local GAAP and U.S. GAAP when foreign issuers apply the comprehensive body of accounting principles available in their own developing country for stockholder reporting in the United States. This study analyzes these reconciliation differences with particular attention to their effect on net income, stockholders' equity and equity returns. The findings highlight the fact that differences in accounting principles cause extreme variations in reported net income, stockholders' equity and equity returns for some developing country firms.*

The number of foreign issuers registering for the first time with the United States Securities and Exchange Commission (SEC) increased from 45 companies in 1990 to 109 in 1993. The value of these newly registered securities increased from about $8 million in 1990 to about $50 billion in 1993 (Mills, 1994). As noted herein, the number of the foreign issuers is still increasing and, most significantly, more of the recent increases are attributable to firms from developing countries.

Since many foreign firms use their national Generally Accepted Accounting Practices (GAAP), their financial statements may result in net income and/or owners' equity different from that which would be reported using U.S. GAAP. Because these differences can be significant, the SEC has special regulations that address foreign issuers desiring to raise equity capital by listing on the U.S. exchanges. These regulations require that foreign issuers must either use U.S. GAAP or present reconciliations of net income and stockholders'

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The International Journal of Accounting, Vol. 33, No. 3, pp. 377-389 ISSN: 0020-7063.

equity for the differences between U.S. and local GAAP in the financial statements available to U.S. investors. Opponents of these regulations argue that these regulations create a barrier to U.S. exchanges due to the reconciliation costs borne by the foreign corporations. If the number of reconciliations by foreign issuers could be reduced or eliminated, entry to the U.S. exchanges by foreign corporations would be less costly. Proponents, on the other hand, hold that U.S. investors trust in the SEC to protect them from accounting practices that produce financial statements with results significantly different from U.S. practices.

This study investigates the number and effect of the accounting differences and their impact on net income and stockholders' equity regarding issuers from developing countries in 1994. We analyze the differences due to accounting principles in an effort to observe significant net income and stockholders' equity variations, and the resulting effects on equity returns. If net income, stockholders' equity, and the corresponding return on equity vary little between accounting practices in developing countries and the U.S., then the standards would appear to produce similar results and the reconciliations would not be necessary.

After a review of the U.S. regulatory reporting issues and the relevant literature, we present the growth of common stock offerings on the New York Stock Exchange (NYSE) and the American Stock Exchange (AMEX) by foreign issuers from developing countries. The third section presents the manner by which the firms from these countries comply with SEC regulations, a necessary quality of financial statements for public offerings on the exchanges; also presented in this section is an analysis of the reported GAAP reconciliations. The fourth section provides a further analysis of the differences in accounting practices, using return on equity as the measurement base. Finally, a summary of the findings and conclusions complete the paper.

REPORTING ISSUES IN THE U.S. CAPITAL MARKET

Several reporting issues impact the U.S. stock listings by foreign issuers. These include added reporting costs, non-accounting reasons for differences in financial results, and reconciliation of local GAAP to U.S. GAAP.[1]

The SEC requires an initial filing (Forms F-1, F-2 and F-3) and annual reports on Form 20-F. These forms parallel filings required for domestic firms. Foreign firms are also required to file semiannually (Form 6-K) while U.S. corporations are required to file quarterly reports (Form 10-Q.) It can be seen that, from a filing perspective, foreign firms face the same or lesser barriers to issuing securities in the U.S. as U.S. entities. A major advantage of U.S. firms over foreign firms does exist that supports the barrier debate: the differences in accounting standards between the U.S. and other countries. Since the SEC requires a reconciliation with U.S. GAAP, foreign firms are forced to comply with both U.S. GAAP and their home country standards if they choose to offer their securities on U.S. exchanges. Several arguments against the SEC's position may be relevant to firms from developing countries. Arguments are that U.S. exchanges become positioned as regional rather than global marketplaces, that the U.S. capital market is no more efficient due to U.S. GAAP and SEC regulatory disclosure requirements, and that the mechanical reconciliation from local GAAP to U.S. GAAP may suggest a comparability that does not exist, given the intercultural differences (Aftermann, 1995). On the SEC's side of the debate, protection of the U.S. investor is first and foremost. In addition, the SEC believes that U.S. GAAP is the best system in the world and this quality should be maintained and uncompromised. The SEC did relax the registration process in 1994, intending to lower the barriers, by reducing the number of GAAP reconciliations to two years, from three, for initial filers. In addition, cash flow statements prepared using International Accounting Standards (IAS) in lieu of U.S. GAAP are acceptable.

BACKGROUND STUDIES

The literature reveals numerable studies that address the issue of barriers to foreign firms' listing their equity issues on U.S. markets. Frost and Lang (1996) report that the SEC's financial reporting requirements may deter foreign companies from offering their securities on U.S. markets. Biddle and Saudagaran (1991) found that companies are more likely to list on exchanges with fewer reporting requirements.

Several articles suggest that the U.S. investor need be aware of a variety of non-accounting issues in making informed investing decisions. Anderson (1993) points out that government social programs, tax laws, politics and cultural differences impact the reporting of financial performance. As examples, she cites the Japanese' long-term patience for economic growth, a bias for savings and less concern for cash liquidity (certainly different from, if not opposite to, the U.S. investor).

Reconciliation to U.S. GAAP has received the greatest attention since it appears to be the greatest barrier. The chairman of the NYSE has stated that "...reconciliation to U.S. GAAP is a major impediment to foreign firms listing in the U.S." (Adler, 1995). Accepting reconciliation as the barrier to entry, several studies have addressed this accounting reporting issue. Alford, Jones, Leftwich, and Zmijewski (1993) conducted a study that compares and contrasts the information content and timeliness of accounting earnings for several non-U.S. countries. Of the seventeen countries studied, eight were inconclusive, four reported in a more timely or more value relevant fashion, and five had accounting earnings prepared in accordance with domestic GAAP that were "...less timely or less value relevant than U.S. GAAP." Amir, Harris, and Venuti (1993) investigated whether reconciliations increased the association between accounting measures and prices of stock. They concluded that "...U.S. GAAP measures appear to be more value-relevant...and the aggregate reconciliations of both shareholders' equity and earnings are value-relevant." Lovata and Costigan (1996) analyzed firms from Canada in an effort to test whether the statement of reconciliation required by the SEC is used by stock market participants. They concluded that the market does appear to react to the information provided on the reconciliation.

Absent from the literature appears to be studies that focus on firms from developing countries. This may be due to the fact that a sufficient number of firms from developing countries have not traded on the NYSE or AMEX for empirical study. For example, an early study (Evans and Taylor, 1982) indicated that the IASC has had very little impact on the accounting practices of France, Japan, the United Kingdom, the United States, and West Germany. Except for a few instances, selected firms from these five countries continue to follow the same practice before and after an International Accounting Standard is issued. A recent study (Chan and Seow, 1996) indicated that earnings based on foreign GAAP were more closely associated with contemporaneous stock returns than earnings reconciled with U.S. GAAP for 45 firms from 13 countries. The study, however, included only one firm each from Chile, Hong Kong, Mexico, and South Africa; the remaining were firms from developed countries. Also, except for the one firm from Mexico, returns correlations between U.S. and foreign stock indices for 1988-1992 were not in the high correlation group. Another recent study (Frost & Kinney, 1996) found substantial variation in earnings/stock returns and earnings change/stock returns among different domicile and disclosure groups. Of the 156 companies in that study, less than 20 were from developing countries. Another study (Larson, 1993) pointed out that, though a causal relationship between international standards adoption and earnings growth cannot be proven, IAS adoption and earnings growth tended to coincide within 35 African countries. Of related interest, of seventeen Chinese companies listed on the Hong Kong Stock Exchange in May 1995, nine used Hong Kong standards, five applied international accounting standards, and three used combined Hong Kong/International Accounting Standards (Goligoski and Taylor, 1995).

Further, accounting standards in developing countries are, of course, lesser developed than those in developed countries. A 1993 United Nations forum to investigate the global accounting standards issue (Journal of Accountancy, 1993) reported that "In nearly half of the nations of Africa...the (accounting) profession was reported to be virtually non-existent—with no certification process..." Certainly then, our study may be seen as a contribu-

Table 1. Number of Firms from Developing Countries with Common Shares Offered on the New York Stock Exchange and the American Stock Exchange at End of Each Year as of December 31, 1994, Listed by Country

Country	*1985**	*1986*	*1987*	*1988*	*1989*	*1990*	*1991*	*1992*	*1993*	*1994*	*Total*
Argentina									3	5	8
Bermuda								1	4	1	6
Brazil								1			1
British W. Indies								1			1
Cayman Islands	1		1		1						3
Chile						1			4	10	15
China									1	2	3
Colombia										1	1
Hong Kong				1					1		2
Indonesia										1	1
Israel	4	1			1			1			7
Korea										2	2
Liberia				2	2				1		5
Mexico	1						2	2	10	10	25
Neth. Antilles	1						1				2
Panama								1	1		2
Peru										1	1
Philippines	4										4
South Africa	2										2
Venezuela									1		1
Totals: # of Firms	13	1	1	3	4	1	3	7	26	33	92
Cumulative Totals:											
# of Firms	13	14	15	18	22	23	26	33	59	92	
# of Countries	6	6	6	8	8	9	9	13	16	20	

Note: *Listed On Or Before December 31, 1985.

tion to the literature regarding accounting standards, reconciliations and accounting reporting for firms from developing countries.

GROWTH IN FOREIGN ISSUERS FROM DEVELOPING COUNTRIES: DATABASE AND DESCRIPTIVE STATISTICS

The database for this study was derived from sources that contained information from firms from developing countries that offered common shares on either the NYSE or the AMEX during the period from 1985 through 1994. The firms were identified by using the annual factbooks published by the respective stock exchanges (AMEX 1995, NYSE 1995).

In 1985, five years after the SEC's 20-F requirements became effective, there were thirteen firms from developing countries with common shares listed on the NYSE or AMEX. By 1994, the number of listings for the firms from developing countries on either the NYSE or the AMEX had grown to 92. This growth is reflected in Table 1 which reveals the almost three-fold increase during the 1992 to 1994 period, from 33 firms to 92 firms.

The number of firms from developing countries with common share issues listed on the major U.S. stock exchanges has not only increased in total, but the number of countries from which the foreign issuers are based also increased during the ten year period. In 1985, six developing countries were represented on the exchanges. In 1994, twenty developing countries had firms offering their common stock on the exchanges. Firms from three countries, namely Mexico, Chile and Argentina, are mostly responsible for the growth in stock offerings. In 1994 alone, twenty five of the thirty three firms newly listed on the exchanges were from these three developing countries. It may be argued that the North American Free Trade Agreement (NAFTA) is responsible for the listings from Mexico, but a different cause must exist for the listings from Chile and Argentina. Is this trend towards increased capital market internationalization due to the influence of changed standards of reporting by the U.S. SEC? The answer may depend on the manner or extent of reconciliation of the local GAAP with U.S. GAAP.

GAAP UTILIZATION: METHODOLOGY OF STUDY

Corporate annual reports and/or the annual Forms 20-F required by the SEC were studied to observe the firms' manner of meeting the SEC's GAAP reconciliation requirements. Specifically, the independent auditor's letter, the accounting policies summaries, the footnotes, and U.S. GAAP reconciliation schedules were reviewed in an effort to discern the GAAP used in the financial statements. In the cases where local GAAP was used, footnotes or supplementary schedules revealed the nature and magnitude of the reconciliation between foreign GAAP and U.S. GAAP.

Of the ninety two firms listed on the exchanges in 1994, sixty firms applied local GAAP in preparing their annual reports. A relatively large number of firms, twenty eight in total, used U.S. GAAP in preparing their annual reports, thereby eliminating the need for a reconciliation.[2] Two firms used international standards and provided a reconciliation to U.S. GAAP. One firm was delisted in 1995 due to insolvency and is excluded from this study. Further, one Israeli firm used combined U.S.-Israel accounting standards. It is important to note that the annual reports themselves do not always specifically state the GAAP being

Table 2. Major Categories Of Net Income Reconciliation: Local to U.S. GAAP

Categories Used Most Frequently:	*Frequencies*
Income Taxes	69
Compensation	58
Intangible Assets	34
Effects of Changing Prices	26
Property, Plant and Equipment	21
Paid-in Capital and Minority Interest	21
Categories With Greatest Positive Adjustments:	*Total of Adjustments (in Thousands)*
Income Taxes	$914,272
Plant, Property And Equipment	$898,055
Effects of Changing Prices	$309,603
Foreign Currency Translation	$269,081
Paid-in Capital and Minority Interest	$202,389
Categories With Greatest Negative Adjustments:	*Total of Adjustments (in Thousands)*
Income Taxes	($522,210)
Compensation	($374,677)
Nonmonetary Transactions	($337,700)
Foreign Currency Translation	($262,016)
Property, Plant and Equipment	($153,100)

employed to prepare the financial statements. Of the sixty firms using local GAAP, three did not provide the reconciliation in their annual reports and one did not quantify the difference.

The firms using local GAAP were required to file SEC Form 20-Fs, which reveal the amounts and specific accounts that cause net income and stockholders' equity to be different between local and U.S. GAAP. The data was analyzed using a model adapted from a recent study jointly undertaken by the Canadian Institute of Chartered Accountants, Mexican Institute of Public Accountants and the Financial Accounting Standards Board of the United States (FASB, 1995).[3] The accounts resulting in reconciliation items were summarized into twenty three categories for net income reconciliations and twenty four categories for stockholders' equity reconciliations.

ANALYSIS OF GAAP RECONCILIATIONS

Table 2 lists the top five categories (with one tie) having the highest number of reconciliation items and the greatest sums for positive and negative adjustments for net income by categories. Of the twenty three used, the six categories shown as "Used Most Frequently" in Table 2 explain 67% of the total adjustments needed to reconcile net income under local GAAP to net income under U.S. GAAP. Adjustments for income taxes was the category found to be used most frequently *and* caused the greatest positive adjustments *and* caused the greatest negative adjustments. One sub-category of income taxes alone, deferred income taxes, caused positive adjustments for 21 firms totaling $912 million and negative adjustments for 30 firms totaling $494 million.[4] Another category that draws attention is compensation. Thirty four of the fifty eight adjustments for net income reconciliation stem from three compensation items: retirement scheme expenses, deferred profit sharing and employee stock plans. These three items alone resulted in negative adjustments of $309 million of the $375 million.

In contrast to these results, a study conducted by the SEC (1993) showed income taxes as third in order of reconciliation item frequency compared to first in this study. Also, in the SEC study, compensation was ninth compared to second in this study. The most frequent reconciling difference in the SEC study was depreciation which was not in our top five most frequent list. To be pointed out is that the SEC study included all foreign firms registered on the U.S. exchanges and only net income reconciliation differences.

In the stockholders' equity reconciliation as shown in Table 3, income taxes were again the category used most frequently, 62, and with the greatest negative adjustments, $3.713 billion. Item analysis of this category revealed that deferred income tax adjustments of 12 firms totaled $737 million while negative adjustments by 39 firms totaled $3.46 billion. This is not surprising given the changes in tax treatments recently promulgated by the Financial Accounting Standards Board. The category with the greatest sum of positive adjustments was paid-in capital/minority interest. This was the only reconciliation category that had a greater impact than income taxes on the difference between local and U.S. GAAP in the equity calculations. Further analysis of this category revealed that the major reason causing this adjustment was inclusion of minority interest in stockholders' equity.

Comparing the categories from both tables 2 and 3 reveals some interesting points. In the "Used most frequently" categories, only the effect of changing prices is not common to both net income and equity reconciliations. It was expected that, due to the large number

Table 3. Major Categories Of Equity Reconciliation: Local to U.S. GAAP

Categories Used Most Frequently:	*Frequencies*
Income Taxes	62
Paid-in Capital and Minority	35
Intangible Assets	35
Compensation	31
Plant, Property and Equipment	20
Categories With Greatest Positive Adjustments:	*Total of Adjustments (in Thousands)*
Paid-in Capital and Minority Interest	$2,631,152
Effects of Changing Prices	$1,737,558
Plant, Property and Equipment	$1,525,950
Contingencies	$824,158
Income Taxes	$802,426
Capitalization of Interest	$562,523
Categories With Greatest Negative Adjustments:	*Total of Adjustments (in Thousands)*
Income Taxes	($3,713,368)
Effects of Changing Prices	($1,625,167)
Postemployment Benefits	($1,035,437)
Consolidation and Equity Accounting	($556,508)
Compensation	($457,704)
Plant, Property and Equipment	($373,844)

Table 4. Comparative Results: This Study versus the FASB Study

	Area Of Difference	*Average (Absolute) Adjustments in Net Income or Stockholders' Equity (In Thousands Of U.S. $)* This Study	FASB Study
Significant Areas Of Difference Reported in the FASB Study	Business Combinations	$1,138	$6,896
	Consolidation And Equity Accounting	$35,309	$5,236
	Foreign Currency Translation	$33,194	$6,475
	Income Taxes	$20,819	$7,085
	Pension Accounting	$1,364	$30,637
	Investments	$2,605	$3,824
	Research And Development	$25,220	$3,676
Other Areas Of Significant Difference In Accounting Standards reported in the FASB Study	Effects Of Changing Prices	$13,790	Na
	Changes In Accounting Principles	$36,590	$105,520
	Discounting/Imputed Interest	Na	$831
	Nonmonetary Transactions	$168,850	$1,667
	Prior Period Adjustments	Na	$5,856
	Compensation	$7,565	$2,909
	Discontinued Operations	$980	$480
	Extraordinary Items	$6,000	Na
	Capitalization Of Interest	$17,739	$2,340
	Contingencies	$22,382	$242,667
	Debt	$1,332	$23,784
	Deferred Or Capitalized Costs	$5,079	$353
	Intangible Assets	$5,321	$15,867
	Inventory	$1,209	$10,285
	Property, Plant And Equipment	$50,055	$11,668
	Receivables	$1,729	$533
	Paid-in Capital and Minority Interest	$10,639	$61

of firms in the study from high inflation economies, this category would cause significant adjustments. What is interesting for this category is that, for equity reconciliation, effect of changing prices was among the greatest positive adjustments and greatest negative adjustments while for income reconciliation it appeared only among the greatest positive adjustments. Income taxes were found to be used most frequently for both reconciliations.

The final analysis of the areas of difference between local and U.S. GAAP is the result of comparing the average differences in the significant categories of accounting principles with that of a comparative study of accounting variations from U.S. GAAP among firms in Mexico and Canada (FASB, 1995). That FASB study analyzed the financial statements from 176 Canadian and 6 Mexican companies. As mentioned earlier in this paper, the categories of accounting principles were based on the model developed for that study. Table 4 lists the average adjustments to net income or stockholders' equity, using absolute dol-

Table 5. Net Income (in 000): Local GAAP versus U.S. GAAP (by country)

# of firms	*Country*		*Local*	*U.S.*	*Percent Difference**	*Conservatism Index -%*
6	Argentina	Ave.	$ 245,038	$ 254,983	3.90	96.10
		Hi	$ 538,000	$ 527,000		
		Lo	$ 20,530	$ 16,935		
14	Chile	Ave.	$ 65,101	$ 60,997	-6.73	106.73
		Hi	$ 377,634	$ 341,024		
		Lo	$ 6,030	$ 6,656		
1	China		$ 176,005	$ 191,886	8.28	91.72
1	Colombia		$ 47,843	$ 39,721	-20.45	120.45
1	Hong Kong		$1,115,200	$1,098,600	-1.51	101.51
1	Indonesia		$ 131,349	$ 127,378	-3.12	103.12
4	Israel	Ave.	$ 13,598	$ 11,783	-15.40	115.40
		Hi	$ 11,061	$ 10,347		
		Lo	$ 1,892	$ 1,471		
2	Korea	Ave.	$ 864,600	$1,526,050	43.34	56.66
		Hi	$1,260,500	$2,638,800		
		Lo	$ 468,700	$ 413,300		
23	Mexico	Ave.	$ 50,055	$ 31,487	-58.97	158.97
		Hi	$1,999,863	$2,112,122		
		Lo	($ 225,000)	($ 255,000)		
1	Peru		$ 33,086	$33,461	1.12	98.88
2	Philippines	Ave.	$ 105,024	$ 121,260	13.39	86.61
		Hi	$ 208,696	$ 234,508		
		Lo	$ 1,352	$ 8,012		
1	South Africa		$ 6,238	$ 4,573	-36.40	136.40
1	Venezuela		$ 566	$ 566	0	100.00
58	All firms	Totals	$7,036,835	$7,945,998	-11.44	111.44
		Ave.	$ 137,000	$ 121,325		

Note: *Percent difference = (U.S. GAAP NI - U.S. GAAP NI)/ Local GAAP NI.

lars, for the categories for each of the areas of difference from both studies. As is apparent, no pattern emerges. The averages for the North American study were vastly different from the averages for this developing country study. This may be due to the fact that Canadian GAAP is based on the British-American model emphasizing full disclosure for the use of external decision makers while much of the GAAP used by the firms in this study is based on the South American model showing the inflation impact. What is intriguing about the FASB study is that magnitude of differences did not apparently determine significance. The study stressed qualitative and subjective factors as determining whether or not an area of difference was "significant."

One of the main motivations for this study was whether or not the SEC is too strict with its regulation of foreign firm's admittance to the U.S. stock exchanges. One of the leading yardsticks for investors' stock selections is return on equity (ROE). Return on equity is net income divided by the total stockholders' equity. Both the net income and the stockholders' equity reconciliations are required by SEC reporting requirements. Many foreign issuers provide these reconciliations in the annual report to shareholders.

Table 5 shows the net income variations between U.S. and local GAAP by country. The greatest disparities occur for the Mexican firms, the two Korean firms, and the South Afri-

Table 6. Stockholders' Equity (in 000): Local GAAP versus U.S. GAAP (by country)

# of firms	Country		Local	U.S.	Percent* Difference	Conservatism Index
6	Argentina	Ave.	$ 2,005,496	$ 2,019,840	.71	99.29
		Hi	$ 5,086,000	$ 5,156,000		
		Lo	$ 25,794	$ 246,730		
14	Chile	Ave.	$ 499,097	$ 464,056	-7.55	107.55
		Hi	$ 2,580,695	$ 2,337,514		
		Lo	$ 74,727	$ 75,109		
1	China		$ 1,088,406	$ 945,231	-15.15	115.55
1	Colombia		$ 352,568	$ 287,533	-22.62	122.62
1	Hong Kong		$ 2,271,500	$ 2,503,400	9.26	90.74
1	Indonesia		$ 672,825	$ 634,834	-5.98	105.98
4	Israel	Ave.	$ 112,677	$ 113,213	.47	99.53
		Hi	$ 223,871	$ 224,329		
		Lo	$ 23,994	$ 24,121		
2	Korea	Ave.	$10,434,450	$11,712,850	10.91	89.09
		Hi	$14,479,600	$16,896,500		
		Lo	$ 6,389,300	$ 6,529,200		
23	Mexico	Ave.	$ 1,176,430	$ 959,037	-22.67	122.67
		Hi	$14,053,753	$11,772,420		
		Lo	($ 37,396)	($ 38,343)		
1	Peru		$ 161,026	$ 156,750	-2.73	102.73
2	Philippines	Ave.	$ 832,440	$ 827,900	-.55	100.55
		Hi	$ 1,562,660	$ 1,562,660		
		Lo	$ 102,220	$ 93,140		
1	South Africa		$ 68,583	$ 86,111	20.36	79.64
1	Venezuela		$ 223,557	$ 202,748	-10.26	110.26
58	All firms	Totals	$73,901,167	$71,024,634		
		Ave.	$ 1,274,158	$ 1,224,563	-4.05	104.05

Note: *Percent difference = (U.S. GAAP SE - Local GAAP SE)/ U.S. GAAP SE.

can firm. Significant disparities occur also for the Colombian firm, the four Israeli firms, and the two Philippines firms. Total adjustments, negative and positive, for net income were in excess of $5.5 billion from 343 items. This is reflected in the average percent difference for all firms of -11.4%. Using the conservatism index, developed by Gray (1980), the average index of conservatism for all firms is 111.4%.[5] An index value of more than 100% means that, overall, the national GAAP are less conservative when measuring net income than U.S. GAAP.

The reconciliations of stockholders' equity also provide significant differences. Table 6 shows the stockholders' equity reconciliation differences between U.S. and local GAAP by country. Here the greatest percentage differences are negative for the Mexican firms and the one Colombian firm. Other significant negative differences also exist for the Chinese firm and the Chilean firms. The greatest positive difference is reported by the South African firm. Total adjustments, negative and positive, for stockholders' equity were almost $20 billion from 323 items. These are revealed in the average percent difference for all 58 firms of -4.05%. This results in an index of conservatism of 104.05% which means that when measuring equity, the local GAAP are less conservative than U.S. GAAP.

Table 7 shows the return on equity by country using both local and U.S. GAAP. In 33 of the 58 cases, ROE decreased after reconciling the financial statements prepared using local

Table 7. Return on Equity: Local GAAP versus U.S. GAAP (by country)

# of firms	*Country*		*Local*	*U.S.*	*Difference**
6	Argentina	Ave.	12.22%	12.62%	0.41%
		Hi	18.49%	16.82%	-1.67%
		Lo	8.12%	6.86%	-1.26%
14	Chile	Ave.	13.04%	13.14%	0.10%
		Hi	61.75%	53.65%	-8.10%
		Lo	2.10%	2.30%	0.20%
1	China		16.17%	20.30%	4.13%
1	Colombia		13.57%	13.81%	0.24%
1	Hong Kong		49.10%	43.88%	-5.21%
1	Indonesia		19.52%	20.05%	0.54%
4	Israel	Ave.	12.07%	10.41%	-1.66%
		Hi	17.60%	14.50%	-3.10%
		Lo	4.00%	3.30%	-0.70%
2	Korea	Ave.	8.29%	13.03%	4.74%
		Hi	8.71%	15.62%	6.91%
		Lo	7.34%	6.33%	-1.01%
23	Mexico	Ave.	4.25%	3.28%	-.97%
		Hi	121.40%	85.00%	36.40%
		Lo	—	—	—
1	Peru		20.55%	21.35%	0.80%
2	Philippines	Ave.	12.62%	14.65%	2.03%
		Hi	13.36%	15.01%	1.65%
		Lo	1.32%	8.60%	7.29%
1	South Africa		9.10%	5.31%	-3.78%
1	Venezuela		0.25%	0.28%	0.03%
58	All firms	Totals Ave.	1.03%	-2.73%	-3.76%

Note: *Percent difference = (U.S. GAAP ROE - Local GAAP ROE;
**The Low firm has negative equity.

GAAP to U.S. GAAP. In the data are some extreme outliers, ranging from a decrease in ROE for a Mexican firm of 142% to an increase in ROE by another Mexican firm of 28%. The average ROE, including the outliers, decreased by 3.76%. A difference of nearly 4% on investment would probably be of significant concern to the average investor.

In reviewing the differences among countries as shown in Table 7, the South American firms have the lowest average ROE differences between local GAAP and U.S. GAAP. Except for Argentina firms to some extent, the greatest differences both in absolute percentage and differences in percentages are reported primarily by Mexican firms and one Philippine firm. This tends to confirm the concern of the standard-setting bodies of Canada, Mexico, and the United States as set forth in the FASB study (FASB, 1995). This difference would also seem to affirm the SEC position that U.S. investors need reconciled statements in order to compare U.S. firms' stocks to those of firms from developing countries.

SUMMARY AND CONCLUSION

A number of studies of differences in accounting principles have centered on the accounting standards of developed countries. Recently, however, a number of firms from developing countries have entered the U.S. capital market by having their common shares listed on the New York Stock Exchange and the American Stock Exchange. In fact, the number of such firms increased four-fold from 1990 to 1994. By the end of 1994, ninety two firms from twenty developing countries have common shares listed on the U.S. stock exchanges. This provides motivation to concentrate on the accounting issues faced by firms from these twenty countries in expanding their investment base into the U.S. capital market.

The GAAP reconciliations required by the SEC for reporting in the U.S. provides the core of this study. The differences between foreign GAAP and U.S. GAAP are categorized and analyzed for significance. The quantitative significance of the differences are analyzed from both the net income perspective and the stockholders' equity perspective and further using the ratio of the two, namely, the return on equity ratio. This serves to highlight the differences in accounting principles that cause the most variation in financial reporting across borders from developing nations into the United States. Certainly, these need attention by standard-setters across borders if a global capital market is to become more efficient.

The inconsistent level of conservatism among the income and equity items, the differences in return on equity, and, generally, the large number and magnitude of individual reconciliation items are important findings. These findings should be of significant concern for investors. Thus, the SEC should continue its current level of financial reporting requirements for foreign issuers. This would be particularly applicable for foreign issuers from developing countries.

NOTES

1. Local GAAP refers to the comprehensive body of accounting principles promulgated in the home, or local country, and applied by the foreign issuers.
2. This included one Argentine firm, the six Bermuda firms, the Brazilian firm, the British West Indies firm, the three Cayman Island firms, one Chilean firm, one Hong Kong firm, one Israeli firm, the five Liberian firms, the two Netherlands Antilles firms, two Chinese firms, the two Panama firms, one from the Philippines, and one South African firm.
3. This study is herein referred to as the FASB study.
4. All currency amounts in this narrative are in U.S. dollars. Foreign currency amounts reported in the financial statements were translated into U.S. dollars at the year-end rate.
5. The index of conservatism for this study was calculated as follows: 1 - [(U.S. GAAP Earnings - National GAAP Earnings)/U.S. GAAP Earnings]

Acknowledgments: The authors extend their appreciation for the comments of Vernon Zimmerman and to the participants at the American Academy of Accounting and Finance conference. Thanks also to the Coopers and Lybrand Foundation and the Center for Research in Business at the University of Notre Dame for financial support during the course of this research.

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The International Journal of Accounting

Book Review

International Financial Reporting and Analysis: A Casebook, *by Kenneth R. Ferris, Irwin/McGraw-Hill, Burr Ridge, Illinois, 1998.*

As the author notes in the introduction, "identification of good case materials is often difficult, particularly in the international arena." This book takes a significant step toward filling that void. It includes thirty-three financial reporting cases representing nineteen countries and covering a broad array of material.

Several key features of the text are striking. First, it is more "global" than "international" in the sense that the focus is not on non-U.S. reporting, but rather on taking a balanced view of reporting worldwide. This is apparent in several ways. Most obviously, several of the cases are based on U.S. reporting. For example, the E.I. DuPont de Nemours case considers environmental liability accounting and disclosure and how it has evolved over time in a primarily US context. More substantively, the cases cover standard topics but draw on a wide range of countries. So, for example, the LIFO inventory case is based on BASF—the analysis is fairly standard in terms of restating the LIFO balance sheet, income statement and taxes to FIFO, but use of the German context provides helpful exposure to alternative balance sheet and income statement formats and terminology. Similarly, the Baycorp Holdings case requires preparation of pro forma statements and pricing of an equity issue for a New Zealand company. As a consequence, the cases provide a unique opportunity to present material covered in a standard analysis class while providing a much broader perspective.

Second, the cases are interdisciplinary and open-ended. They provide a broad range of background material to help students think beyond the accounting and reporting issues to the more general analysis of strategy, operations and underlying economics. Further, the questions generally include both standard quantitative analysis as well as open-ended discussion questions. For example, the Buenos Aires Embotelladora (BAESA) case is an analysis of Pepsi's strategic investment in the Argentine bottler and of BAESA's subsequent surprise announcement of financial difficulties. It begins with a general discussion of the worldwide soft drink industry and Pepsi's strategy in the market, particularly as it related to Latin American strategy and BAESA. Then it carefully lays out the reasons it appeared that BAESA was well situated to help Pepsi challenge Coke in the region. The questions begin with fairly standard analyses of cash flows, comparisons with competitors, and ratios. However, they quickly turn to an analysis of the weak points in the strategy, the early warning signs, and the disadvantages BAESA faced relative to its competition. The case closes with a discussion of future directions for BAESA and for Pepsi. One leaves the

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case with an understanding not only of the numbers, but also of the underlying economic and strategy issues.

Third, the author has managed to assemble an assortment of cases that cover a remarkable range of countries and issues. Many international texts draw primarily from the more developed economies; the cases here include companies from Argentina, Chile, India, Vietnam, Hungary, the West Indian Islands, and an array of other countries. For example, the Zoltek Companies case considers a proposed acquisition by a U.S. company of a Hungarian manufacturing company. The case analysis requires the students to begin with a pro forma analysis of the combined companies and then focus on the foreign exchange exposure for the U.S. company which would result from such an acquisition and the strategies for dealing with the exposure. The case ends with a discussion of the factors that would be considered in valuing such a business, exposing students to the unique issues encountered with acquisitions in volatile economies.

Fourth, as the preceding discussion suggests, all of the cases are very current and timely. As a consequence, I have no doubt that the book would be very popular with students, since it addresses many topics they would have been exposed to in the press and in other courses.

My only concern is with how well the book would fit in the standard curriculum, given the range of topics covered. It is designed mainly "for graduate management students with prior work experience, for executives, and for advanced undergraduate students." Several of the cases cover fairly basic concepts (e.g., accounting for liabilities, revenue recognition criteria, and preparation of a statement of cash flows) which would fit nicely into, say, an MBA introductory class. Others seem more appropriate for an upper level course after students have taken courses in strategy and finance. Many focus on a restatement to U.S. GAAP, which is probably most appropriate for an elective with an explicit international focus. As a consequence, I could imagine wanting to pull a few cases from the book for a variety of courses, but it is more difficult to envision using the book as a primary text for a specific course.

Reviewed by Mark Lang
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International Accounting and Finance Handbook, *by Frederick D.S. Choi, second edition, John Wiley & Sons, New York, 1997, approximately 1100 pages + index.*

International Accounting and Finance Handbook, edited by Fred Choi, a distinguished professor of accounting at New York University, has now appeared in a second edition. The coverage is basically the same as in the first edition, published in 1991, although there are a number of new contributors. The main change is some rearrangement of material and the addition of some chapters dealing with international finance. As a consequence of this change, the words *and Finance* have been added to the title. My comments are limited to the accounting section, reflecting my background as, among other things, a Board member of the IASC, representing financial analysts.

Editing a book on international accounting is not an easy task, and especially not at this time. We have never before witnessed so many accounting changes taking place in a relatively short period of time. What I am thinking of are the new standards issued by the IASC. It now looks as if the IASC will meet the IOSCO requirements for a core set of standards in late 1998. If so, we can expect a large number of non-U.S. companies to adopt these standards. I am sure that Fred Choi has given a lot of thought on how to deal with what is going on in the IASC. In the end, he must have decided that the emphasis of the *Handbook* should be on current accounting practices, not on what might happen in 1999 and afterwards, however interesting. There are also many references to various IASs, including an entire chapter written by Art Wyatt, a former chairman of the IASC. Still, if I were to have written this book, I would probably have spent more time explaining what is going on in the IASC and how its work influences standard setting and financial reporting in different countries. I suppose this is a reflection that IASs are much more important to non-U.S. than U.S. companies.

The *Handbook* has a heavy U.S. bias. This can be seen, in particular, in the list of authors. Of some fifty people who have contributed to the *Handbook*, only a handful live outside the U.S. I think that the book could have benefited from authors having a different geographical background. I was a bit surprised to see that the chapter on Harmonization Efforts in the European Union had been written by Professor Gerhard Mueller. We all know that Professor Mueller is a leading expert on international accounting. In the chapter, he acknowledges the assistance made by Karel Van Hulle, who is responsible for accounting issues in the European Commission. Even though it might be interesting to see European accounting problems being discussed by an American, I believe that the book would have gained in credibility if the chapter had been written by someone such as Mr Van Hulle. It certainly would have saved the chapter from statements like "Positive goodwill can either be amortized over a maximum period of five years according to the provisions of the Fourth Directive or can be written off directly to owners' equity" (11:19), "France operates under a regime of *dirigisme* which produced a rigid, uniform accounting system" (11:24) and "Sweden translates some of its social welfare goals into accounting rules" (11:25). As for goodwill, the correct statement is that it may be written off over any period of time. As for France and Sweden, the *group* accounts of at least the larger listed companies often comply with IASs. Even though the statement made by Professor Mueller may be correct for individual accounts, those accounts are normally not of particular interest to readers other than the tax authorities.

It is inevitable that, in a handbook of this size, there will be factual statements that are incomplete or possibly misleading. One general observation is that it is seldom clear from the text whether it refers to individual accounts or group accounts. I assume that the authors normally intend to refer to group accounts, since individual accounts are not published in the U.S. In Europe, however, one needs to be more careful, as the individual accounts are just as common and because the accounting principles used in the individual (i.e., parent company) accounts often differ from those used in the group accounts. One example is in the chapter on International Accounting Diversity written by Choi and Richard M. Levich. In the chapter there is a reference to deferred tax accounting in different countries. The authors state that "recognition of deferred taxes as a current expense item is permitted in the United States and the United Kingdom, but disallowed in Germany, Switzerland, and Sweden" (6:6). It is true that, in Swedish individual accounts, deferred tax accounting is not allowed. However, there is a Swedish standard that prescribes comprehensive deferred tax accounting for group accounts. It is my understanding, moreover, that the larger German and Swiss companies also account for deferred taxes in their group accounts. In the U.K., the partial method for deferred tax accounting is compulsory. Therefore, it is difficult to find this particular comment made by the authors especially helpful. It is perhaps even more surprising that this brief comment on deferred tax accounting is the authors' only reference to this extremely complicated area. I would have thought that deferred tax accounting would be one of the first topics to be discussed in a text on international accounting. It was included in the first edition but, for some reason, was taken out.

Another area where I was surprised not to find more guidance relates to merger accounting, or the application of the pooling of interests method. I was asked a few weeks ago whether a planned merger could be accounted for by the pooling of interests method in the U.K., in the Netherlands, or in Sweden. What the *Handbook* says is that the U.S., Japan, the U.K., Germany and the Netherlands all permit the pooling of interests method but that the conditions vary from country to country. Once again, such a statement is not very helpful, especially as the method certainly is not expressly disallowed in other countries, like Sweden, for example. I think it would have been more informative to describe the rules for the pooling of interests method in IAS 22 and in the 7th E.U. Directive and then explain which countries normally apply these rules.

According to the preface, the *Handbook* is intended as a practical reference work for a broad spectrum of professionals and educators "whose responsibilities encompass the international dimensions of financial analysis, reporting, and control" (xvii). The preface gives as examples comparisons of cross-national performance statistics by analysts and communication between a North American financial executive and German investors or a Vietnamese supplier. A reader may get the impression that the intention is to explain in some detail the different accounting languages around the world to enable the analyst or the financial executive to make cross-national comparisons. It is, however, obvious that this has not been the objective. The *Handbook* is much more general and there is no systematic discussion of what distinguishes, for example, German from British accounting. I am therefore skeptical that the *Handbook* meets its objective of being a practical reference book. I would refer to it as a book of readings. As such, it is certainly worth consulting.

Reviewed by Rolf Rundfelt
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Stockholm, Sweden

Accounting: An International Perspective *by Gerhard G. Mueller, Helen Gernon and Gary K. Meek, fourth edition, Richard D. Irwin, Chicago, 1997, 215 + xv pp.*

Most books on international accounting are written for readers who already have a fairly extensive knowledge of accounting, usually at least through the intermediate level. As a result, the books tend to assume a level of technical accounting knowledge that puts them out of reach of non-accountants, be they students or practicing managers. Most international accounting books also are quite lengthy and are intended as stand-alone books in 3-credit hour courses.

In contrast, this book conveys the diversity of international accounting standards and practice to an audience that has little technical knowledge of accounting. The stated objective of the authors is "to supplement existing introductory accounting textbooks in order to add an international dimension for students taking introductory accounting" (Instructor's Manual, p. vii). Therefore, the book stands by itself as an overview of international accounting that is (1) non-technical; and (2) brief.

Why deal with international accounting in an introductory course when students are struggling just to master basic accounting knowledge? The reason is that the vast majority of introductory accounting students are not going to be accounting majors. If the international aspects of accounting are not dealt with in the first course, most students will never be exposed to them in any organized or rational way. That is not to say that the majority of students will not be exposed to international accounting in the future. Indeed, with the rapidly increasing globalization of business and management, it will be impossible for students to avoid international accounting issues in their future careers. International accounting issues will be pervasive, whether in the capital markets or in divisional performance evaluation, and it is important that students understand the nature of nation-specific accounting standards *and the underlying reasons that they exist.*

Often, students tend to believe that what they learned *first* is also *best.* When they learn their own country's accounting standards without also appreciating the underlying circumstances and forces that created those standards, they tend to think that everyone else's standards are wrong, simply because they are not the same. An exposure to international accounting, as presented by Mueller et al., actually should improve students' understanding of the bases of their own accounting standards, as well as prepare them to understand those of other countries when they encounter them in the future.

The authors accomplish their goal of conveying the international aspects of accounting quite successfully. The book is well written and easy to read, and it accurately captures the cultural, historical, economic, political and legal factors that shape a nation's accounting standards. As well, it deals effectively with the problems inherent in working with different countries' accounting standards in international business.

The book deals with both the financial and managerial accounting aspects of international accounting. Since most schools teach introductory financial and managerial accounting over at least two terms, its 160 pages of text (plus 47 pages of questions, cases, and supplemental readings lists) do not place a substantial extra burden on students. There are many useful excerpts from non-U.S. financial statements in the book, which are intended not for extensive analysis but rather to illustrate how fundamental the differences are between countries. Examples include firms from Mexico, Germany, Japan, Sweden, Switzerland, France and the U.K.

The non-technical nature of the book extends to the end-of-chapter material. Each chapter has a list of review questions and two or three short cases. The cases generally are non-numeric and implicitly stress the underlying nature of nation-specific financial reporting.

The authors provide a short list of additional readings at the end of each chapter. These lists provide a very useful device for extending the material in the text. The most obvious use of the supplemental readings is simply to enable students to read more about topics that interest them. Perhaps more importantly, however, the supplemental readings make it easy for the book to be used beyond its basic purpose as a supplemental text for U.S. introductory courses.

By prescribing selected articles from the supplemental readings lists, instructors can expand the book's depth of coverage to use it for stand-alone short courses on international accounting that are suitable for managers and management students. As well, the supplemental readings extend the book's relevance to non-U.S. readers. Essentially, the book is written to U.S. students. The authors are very careful to emphasize the underlying reasons for having different GAAP in different countries, and continuously caution students not to think that GAAP in their own country is the "right" or "best" GAAP. However, the reference point for comparisons of business practices, economic environment, and GAAP differences is always the U.S. The use of a U.S. reference base tends to limit the suitability of the book for English-language courses in other countries. However, the lists of supplemental readings make it easy for an instructor to overcome this handicap because the instructor can select supplemental readings that use European or Asian bases of comparison to supplement the U.S. bases that are inherent in the text. Indeed, this reviewer intends to use the text in short courses in several management schools in other countries over the next couple of years.

The authors have made every effort to make the text easy to use for instructors. Even instructors who have little or no prior knowledge of international accounting issues should be able to use this book without difficulty. The authors supply an extensive Instructor's Manual which explains quite clearly how to use the book as a supplement, with suggestions about where in an introductory course to assign the various chapters. For each chapter, they provide a list of key points, a chapter outline, overhead transparency masters, and a test bank of multiple choice and true-false questions, as well as suggested solutions to the review questions and cases.

In summary, this is a unique book that very effectively enables non-accountants to understand the reasons for nation-specific GAAP, the problems that arise from accounting differences, and approaches to dealing with those problems.

Reviewed by Thomas H. Beechy
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The Development of Accounting in an International Context: A Festschrift in honour of R. H. Parker, *edited by T.E. Cooke and C.W. Nobes, Routledge, London, 1997, 261 pp.*

Bob Parker's two main areas of interest have been accounting history and international accounting.

In this collection, Basil Yamey first documents the diversity of accounting in Western Europe from 1300 to 1800, concluding that "in the absence of strong internal or external pressures to induce uniformity, a sort of *laissez-faire* prevailed as regards the bookkeeping and accounts of commercial firms" (p.24). Uniformity was the exception and Yamey identifies just three examples.

Tom Lee examines the 19th century development of the profession in Scotland, arguing for greater recognition of the role of significant individuals, such as Richard Brown, secretary and treasurer, and later president, of the Society of Accountants in Edinburgh, while Dick Edwards, Garry Carnegie and Jules Cauberg conduct a prosopographical study of the founders of the Incorporated Institute of Accountants, Victoria. They demonstrate that, while the conventional view of the importance of middle-aged, white, male, Protestant, British immigrants in establishing Australian professional societies holds good, these men were not new arrivals but firmly entrenched residents—"independent Australian Britons"—who had not arrived in Australia as accountants but had moved in the direction of an accounting career in the years after they had settled.

Lee Parker looks at professional bodies' ethical pronouncements (such as the long-standing prohibition on advertising) and the tensions between their stated detachment from business objectives, their necessary interaction with commercial pressures, and the ethical values of business itself—hard work and the single-minded pursuit of profit—as exhibited in business self-help manuals and other literature.

Richard Morris charts the influence of England on Australia in the development of one type of corporate legal form—contrasting the British cost book mining company (with, in principle, unlimited liability of its owners) with the "no-liability" mining company established by statute in Victoria in 1871.

The remainder of the studies focus more on recent aspects of international accounting theory, practice and regulation than on the historical dimension. Phil Bell and Ken Peasnell argue that Baxter's "deprival value" approach to measuring asset values and depreciation can be strengthened by utilizing the used-asset pricing methodology they develop for dealing with a single replacement cycle, without the need for assumptions about all future replacement conditions (although this result appears to depend on knowing what is the optimum economic life of a new asset (p136), which generally must in turn depend on an assessment of future conditions). The importance of seeing "deprival value" as a fundamental way of arriving at "historical cost" depreciation rules, and not simply as a method of "current value" accounting, is emphasized by the way in which David Tweedie and Geoff Whittington chart the reasons for the decline in the utilization of current cost accounting around the world since the early 1980s.

Steve Zeff contributes a lively account of how successful economic consequences lobbying by U.S. corporations, reaching a new height in gaining support from the Senate, forced the FASB to abandon its proposed standard on the treatment of stock option compensation in the income statement, even though the Board remained convinced that this was the proper accounting treatment and had the support, *inter alia*, of U.S. accounting academics, institutional investors and financial commentators.

Sid Gray and Clare Roberts examine the reasons for the world-dominance of London's stock exchange in attracting foreign-company listings, looking at the period from 1937 to 1994. They model the variables that might explain the country origins of the foreign listings in 1992, finding GDP, market capitalization and domestic investment to be the most significant. However, they propose that further research is needed to identify factors such as the impact of differing trade links and differential accounting and disclosure regimes. Comparative modeling across major stock markets is also needed.

Finally, Segun Wallace studies the development of accounting research in the U.K. and exhorts accounting to return to "core" accounting issues, i.e., concern with the content rather than the context of accounting.

How is one to evaluate such a book? Selecting individual articles for detailed comment and criticism cannot do justice to the *festschrift* editors' objectives in compiling a collection that reflects the interests of the scholar to whom it is dedicated. But merely observing that the collection does, as a whole, provide a spectrum of interesting knowledge and ideas is likely to engage only those (such as this reviewer) whose interests are largely overlapping. I therefore propose to take up the challenge offered by the last paper—Wallace's call for more "core accounting" research—and indicate how several of the papers in the collection both raise interesting and topical "accounting content" questions that merit further research and investigation, and also show how questions of accounting content and context are necessarily intertwined.

Yamey's comments on the lack of uniformity in early European accounting lead one to consider the nature of the IASC's current program for "core" accounting standards. This is largely driven by the prospect of securing the agreement of IOSCO members (including the U.S. SEC) to accept accounts prepared under IASC standards for the purposes of cross-border listings. Here, the Gray and Roberts analysis of the dominance of London's stock exchange (whose rules include mutual recognition of all E.U. member countries' requirements and acceptance of internationally recognized standards such as IASs and U.S. GAAP) in attracting foreign listings raises the issue of the relative bargaining positions of the SEC and other countries in the determination of the content of the "core" standards. If such core standards are agreed, the focus of most future "financial accounting content" debate, as well as of political lobbying of the kind analyzed in Zeff's paper, will presumably switch to the international forum.

The standard setting agenda, nationally and internationally, is currently dominated by issues relating to financial instruments and derivatives. Here, there is a renewed interest in current values. While Tweedie and Whittington identify a number of contextual factors contributing to the decline of "current cost accounting," they give only subsidiary status to "technical weaknesses in the CCA proposals of the early 1980s" (p.174), i.e., the content of the accounting numbers. Yet, a major weakness may have been that preparers were uncomfortable with methodologies that translated "bottom line" historical cost earnings numbers that they knew how to manage (e.g., for "signaling" the information they believed their investors and other users should receive) into "bottom line" CCA earnings numbers that no longer gave those signals, and which they could not manage directly. Correspondingly, a major concern that appears to have undermined the recent IASC proposals on the reporting of current values and related "comprehensive income" measures for financial instruments is the lack of direct consideration of the appropriate performance measurement concepts (in particular how to deal with volatility arising from changing interest rates). Here, Bell and Peasnell's paper on measurement of depreciation provides a platform for further consideration of "capital" and "income" distinctions across the range of financial assets and liabilities as well (e.g., p.143); and of the relationship between "deprival value" of assets (and liabilities) and models (such as Ohlson's) of entity valuation and income—the fundamentals of accounting content viewed from the context of security valuation in capital markets.

International harmonization of accounting content will require the IASC to adopt a more acceptable "due process"—which in turn will require understanding of the way professional accounting traditions and values have developed in different countries, as illustrated in the papers by Lee, Edwards *et al.*, Parker, and Morris in this collection. Perhaps the most important country to understand is now the U.S., and here Zeff's analysis of the U.S. political context of the proposals on accounting for stock options again brings out the need to consider the accounting content of proposed standards. While it may be well argued that:

> "If options aren't a form of compensation, what are they? If compensation isn't an expense, what is it? And, if expenses shouldn't go into the calculation of earnings, where in the world should they go?" (p.185)

The issue of *when* they should be charged against earnings remains unresolved. Here the paradox is that the most valid motive for utilizing stock options to incentivize managers (rather than, say, performance-based remuneration linked to accounting earnings) is that the benefits of the kinds of decisions and efforts they are being encouraged to make will not show up in accounting earnings until long after they have shown up in the price of the company's shares—for example where managers are developing the intangible factors, or undertaking research and development, crucial to a company's long-term success. So, while proper "matching" should not charge the expense until the benefits are reflected in accounting earnings, conventional accounting fails most conspicuously through its inability properly to "match" expense and revenues in relation to areas such as research and development and other intangibles. The beneficial role of executive stock options (provided there is full disclosure) may be to overcome this deficiency of accounting's content (hence their popularity in Silicon Valley)—and the political lobbying may ultimately have some legitimate basis in disagreement over "proper" accounting.

In stimulating questions such as these about the interrelationships between the content and the context of accounting, which will increasingly be resolved at international level, this collection of papers provides a tribute to Bob Parker's own work, and to his skilled editorship of *Accounting and Business Research*, which emphasizes that the value of research lies as much in the question asked and prompted, as in the particular details of the information and insights offered.

Reviewed by Richard Macve
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England

Capsule Commentaries

This sub-section will include brief commentaries on selected works for which full-fledged book reviews have not been solicited. Except where otherwise noted, the commentaries were written by the book review editors.

Financial Reporting in North America, *A Joint Study Undertaken by: Canadian Institute of Chartered Accountants, Instituto Mexicano de Contadores Públicos, A.C., and the Financial Accounting Standards Board, 1995, 204 pp.*

This study "represents a first step in spurring future cooperation for progress in international harmonization among the three countries in the wake of the North American Free Trade Agreement" (p. iii). The international firm of KPMG Peat Marwick LLP performed extensive research and analysis for the project.

After treating the capital market structures and accounting standard-setting processes in Canada, Mexico and the United States, the study compares the three countries' conceptual frameworks and then their accounting standards.

Among the areas in which significant differences were found are: the effects of changing prices, business combinations, consolidation and equity accounting, foreign currency translations, income taxes, pension accounting, and research and development.

Informative appendices compare the conceptual frameworks and accounting standards in some detail as well as pinpoint differences in the reconciliations to U.S. GAAP filed with the SEC by Canadian and Mexican companies.

S.A.Z.

International Accounting Standards versus US-GAAP Reporting: Empirical Evidence Based On Case Studies, *by Trevor S. Harris, South-Western, Cincinnati, 1995, 147 pp.*

The purpose of this study was to determine the significance of differences between revised IASC standards (extant in 1994) and U.S. GAAP. With the assistance of Coopers & Lybrand L.L.P., the author restated the group accounts of a sample of eight companies in a variety of industries: six Continental European companies and two companies based in Australia and New Zealand. The companies' annual reports for 1992 or 1993, as supplemented by research conducted by the companies themselves, were used to construct reconciliation tables between the revised IASC standards and U.S. GAAP.

The International Journal of Accounting, Vol. 33, No. 3, pp. 401-402 ISSN: 0020-7063.

Harris concludes: "The analysis demonstrates that companies that comply with the **revised IAS** provide accounting measures that are essentially consistent with US-GAAP, and, where they differ, it seems difficult to argue that use of IAS will compromise the relevance of the data" (p. 2). Two key areas of difference were accounting for business combinations and foreign currency translation.

S.A.Z.

International Accounting—Similarities & Differences—IAS, US GAAP and UK GAAP, *Price Waterhouse, London, 1997, 44 pp.*

This is a handy comparison of IASC standards, U.S. GAAP and U.K. GAAP as of December 1997, prepared by the U.K. firm of Price Waterhouse. A matrix analysis of similarities and differences by topical area is supplemented by a concise discussion, again by topical area, of the current standards and the recent exposure drafts issued by the IASC, the U.K. Accounting Standards Board and the U.S. Financial Accounting Standards Board.

S.A.Z.

CTIONS FOR AUTHORS

)PE. The aims of *The International Journal of Accounting* are to advance the academic and profes- ıding of accounting theory and practice from the international perspective and viewpoint. The *Jour-* 'hat international accounting is influenced by a variety of forces, e.g., governmental, political and

attempts to assist in the understanding of the present and potential ability of accounting to aid in ıd interpretation of international economic transactions. These transactions may be within a profit vironment. The *Journal* deliberately encourages a broad view of the origins and development of ı an emphasis on its functions in an increasingly interdependent global economy, and welcomes t help explain current international accounting practices, with related theoretical justifications, and ns of current practice. Other than occasional commissioned papers or special issues, all the manu- d in the *Journal* are selected by the editors after the normal refereeing process.

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This is a handy comparison of IASC standards, U.S. GAAP and U.K. GAAP as of ber 1997, prepared by the U.K. firm of Price Waterhouse. A matrix analysis of sin and differences by topical area is supplemented by a concise discussion, again b: area, of the current standards and the recent exposure drafts issued by the IASC, Accounting Standards Board and the U.S. Financial Accounting Standards Board.

INSTRUCTIONS FOR AUTHORS

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The *Journal* attempts to assist in the understanding of the present and potential ability of accounting to aid in the recording and interpretation of international economic transactions. These transactions may be within a profit or nonprofit environment. The *Journal* deliberately encourages a broad view of the origins and development of accounting with an emphasis on its functions in an increasingly interdependent global economy, and welcomes manuscripts that help explain current international accounting practices, with related theoretical justifications, and identify criticisms of current practice. Other than occasional commissioned papers or special issues, all the manuscripts published in the *Journal* are selected by the editors after the normal refereeing process.

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ISSN: 0020-7063

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Volume 33 • Number 4 • 1998

lished by
JAI Press Inc.
Stamford, Connecticut London, England

ter for International Education and Research in Accounting,
versity of Illinois at Urbana–Champaign

Name of publication: **THE INTERNATIONAL JOURNAL OF ACCOUNTING** (ISSN:0020-7063)
Issue: Volume 33/Number 4/1998
Frequency: Published Quarterly
Office of publication: 100 Prospect Street
Stamford, Connecticut 06901-1640.

Subscription rates (postage included):

Institutions: United States $225.00
Foreign Surface Mail $250.00
Foreign Air Mail $275.00

Individuals: United States $95.00
Foreign Surface Mail $120.00
Foreign Air Mail $145.00
(Please remit by personal check or credit card)

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All subscriptions must be prepaid and are for the 1999 calendar year only.

POSTMASTER send address changes to:

Subscription Dept.: 100 Prospect Street, Stamford, CT 06901-1640.
(Europe and United Kingdom) 38 Tavistock Street, Covent Garden
London WC2E 7PB, England

Editorial Office: Center for International Education & Research in Accounting
320 Commerce West Building
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E-Mail: gillham@uiuc .edu

Editor: A.D. Bailey, Jr.

Back Issues: Information about availability and prices of back issues starting with Volume 31, Number 1 may be obtained from the publisher's order department (address above). Prior issues, please contact the editorial office.

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For:
**Center for International Education and Research in Accounting,
University of Illinois at Urbana–Champaign**

[redacted]

THE INTERNATIONAL JOURNAL OF ACCOUNTING

VOLUME 33 NUMBER 4 1998

ARTICLES

The International Journal of Accounting

The Difficulty of Achieving Economic Reality Through Foreign Currency Translation

David A. Ziebart and Jong-Hag Choi
University of Illinois at Urbana-Champaign

Key Words: Foreign Currency Translation; Purchasing Power Parity

Abstract: *The Financial Accounting Standards Board attempted to alleviate the problems with the reporting of foreign operations and foreign currency translation adjustments by issuing SFAS No. 52. This study examines the sign and magnitudes of the reporting errors that result under the best translation approach—current cost translated at the current exchange rate. Accordingly, a benchmark is established regarding the "best" we will be able to accomplish when certain foreign currency market conditions exist. Unfortunately, the results demonstrate that a foreign currency translation that is economically interpretable is not easily achieved. To achieve economic interpretability, we suggest that supplemental information regarding current values, the timing of asset acquisitions, historical exchange rates at the time of the acquisitions, and the current exchange rates should be provided in financial statements or the accompanying footnotes.*

"The values in the Ledger must be reckoned in one kind of money.....ducats, or lire, or Florence, or gold scudi....you should always use the same kind of money...."

Frater Lucas de Burgo Sancti Sepulchri, (1494, p. 210):
translation by Geijsbeek (1914).

Foreign currency translation has been an issue in accounting since the days of Paccioli. In the United States, the Financial Accounting Standards Board (FASB) has been involved in developing accounting methods for U.S. multinational corporations to translate the results of foreign operations and financial position for inclusion in their financial statements. As the globalization of corporate activities as well as the volatility of foreign currency exchange rates increase, the FASB continues to face difficulties in developing translation methods that provide financial reporting information which is interpretable. Given the continued pressure for financial statements to portray economic reality, the current approach to foreign currency translation will continue to be questioned.

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The International Journal of Accounting, Vol. 33, No. 4, pp. 403-414 **ISSN: 0020-7063.**

It is difficult to develop foreign currency translation (FCT) methods that achieve "economic interpretability" by employing a translation method of just converting the amounts of transactions and balances of accounts from one currency to another using an exchange rate. As explained later, employing such a simple approach does not result in economic interpretability.

Given the recent emphasis on valuation and economic interpretability of the statement of financial position, foreign currency translation continues to be a concern. This concern is exacerbated since the degree of internationalization of many firms continues to increase and now includes hedging activities as well as transactions in derivative securities. Internationalization and the need for sound FCT methods are expected to increase as additional foreign markets are opened to U.S. corporations as well as foreign corporations expanding their presence into new markets.

Of the alternative foreign currency translation methods, the method that theoretically *best* achieves economic interpretability is current cost valuation translated at the current exchange rate (CCCE, hereafter) (Beaver & Wolfson, 1982; Ijiri, 1983). Unfortunately, Glick (1986) points out that this method, while theoretically superior to the alternatives, is flawed when conditions of market neutrality are violated—and these violations occur almost continuously. This problem may assist in explaining why recent evidence on the valuation implications of FCT adjustments (Soo & Soo, 1994; Collins & Salatka, 1993; Bartov & Bodnar, 1994), although generally supporting the theoretically expected effects, is inconsistent.

Using actual foreign currency exchange rates, this study investigates the degree that reported values of foreign subsidiary assets, translated using CCCE (current costs and current exchange rates—the best method for achieving economic interpretability), are biased relative to the economic value of the assets. This bias is due to the failure of exchange rate neutrality or purchasing power parity, one of the conditions of market neutrality assumed by Beaver and Wolfson (1982), to hold. Most economists take it for granted that purchasing power parity does not hold for exchange rates in today's markets and its failure is widely documented.

HISTORICAL BACKGROUND

The FASB's first attempt to regulate foreign currency translation methods for U.S. GAAP, SFAS No. 8, was issued in 1975. SFAS No. 8 standardized the various translation practices being used by multinational corporations into one general approach. SFAS No. 8 was met with strong opposition by the financial community since it disparately treated long term assets and increased the volatility of reported income. The FASB attempted to alleviate these problems by issuing SFAS No. 52 in December 1981.

SFAS No. 52 provided two methods of foreign currency translation; the temporal method when the functional currency is the U.S. dollar and the current method when the functional currency is the local currency of the foreign subsidiary. The temporal method is, in essence, the same as SFAS No. 8; all translation gains and losses are reflected in current income and different exchange rates are used for different items. The current rate approach does not require gains and losses from foreign currency translation to be reported as income and all items are translated at the current exchange rate.

SFAS No. 70, issued in 1982, added to and clarified SFAS No. 52 by requiring supplemental disclosure of the current market values of fixed assets and certain other foreign operation items. In 1986, the FASB issued SFAS No. 89 to supersede SFAS No. 33 and the related statement No. 70. Supplemental disclosure of current market values is no longer required; it is only encouraged.

Although SFAS No. 52 may have alleviated the significant controversies of SFAS No. 8, it does not result in financial statements that are economically interpretable. Selling and Sorter (1983) describe the effect of SFAS No. 52 on financial statement analysis as follows:

> ...the translation at current exchange rates of local currency-denominated historical cost items may be considered to result in a figure that is neither a meaningful description of past cash flows nor a description of future flows. The Statement further confounds interpretation of the effects of translation by requiring that these meaningless balances be consolidated with the parent company's accounts.

Wojciechowski (1982) describes the position of Du Pont regarding SFAS No. 52 by stating that "the current rate method...gives off potential false and misleading signals."

IDENTIFICATION OF "BEST" REPORTING METHOD

To evaluate alternative translation methods, Beaver and Wolfson (1982) introduced the concepts of *economic interpretability* and *symmetry* as desirable attributes of the financial statements produced using alternative FCT methods. Given some fairly restrictive assumptions regarding the nature of financial markets, Beaver and Wolfson concluded that the current cost and current exchange rate (CCCE) method results in financial statements that possess the properties of economic interpretability and symmetry. They note that other methods, such as historical cost translated at the historical exchange rate and historical cost translated at the current exchange rate, are deficient in achieving these attributes. The stylized economy used by Beaver and Wolfson assumed a nearly perfect market situation and they implied that alternative FCT methods are even more deficient in less perfect market situations.

The Beaver and Wolfson (1982) results require four conditions of market neutrality to hold (Glick, 1986). First, exchange rate neutrality, commonly referred to as purchasing power parity, prevails when the change in price of goods in the parent country is equal to the dollar-equivalent change in price of goods in the host country. Second, inflation neutrality exists when the input and output prices change at the same rate. Third, international interest parity holds when the domestic interest rate is equivalent to the effective dollar cost of borrowing in the foreign market. Fourth, domestic interest neutrality exists when the market rate of interest is equal to the real interest rate plus the rate of inflation. When these conditions are met, the CCCE provides an accurate assessment regarding the value of the foreign operations (Glick, 1986, 247)). However, when the neutrality conditions are not met, CCCE does not produce financial information that is readily interpretable.

From a practical point-of-view, the "best" FCT approach (using the criteria identified by Beaver & Wolfson) combines SFAS No. 52 with supplemental information such as was required by SFAS No. 70. Unfortunately, translating historical cost information falls fall short of achieving economic interpretability because the assets are not reported at current costs and the conditions of neutrality are not met in the real world. When neutrality conditions are not met, even translating current values at current exchange rates may not achieve complete economic interpretability. With financial statement information prepared using a historical cost basis, the failure to disclose current values results in financial statements which are even less interpretable.

SCOPE OF ANALYSIS

This study determines the extent to which the failure of the exchange rate neutrality condition (purchasing power parity) biases reported assets even when the assets are measured using current cost translated at the current exchange rate (CCCE). Evidence on the extent to which the most theoretically correct method of FCT is biased due to the failure of purchasing power parity is provided. In addition, the results of this study provide a benchmark as to the "best" we can hope to achieve with FCT. Accordingly, the analysis is conducted such that the computed bias is due solely to the violation of the exchange rate neutrality condition.

For a sample of 59 countries, the long-run deviation of the actual exchange rate from the theoretical purchasing power parity derived exchange rate is computed and the degree of long term asset misstatement is assessed for hypothetical asset acquisitions made from 1960 through 1996 and reported at year-end 1996.

For actual multinational corporations, the degree of actual misstatement will be most severe when foreign operations have a high ratio of fixed assets. Therefore, the degree of misstatement in actual financial statements depends on (1) the extent to which the purchasing power parity condition is violated; (2) the degree of investment in fixed assets; (3) the years in which the assets were acquired; and (4) the rate of asset turnover.[1]

The results of this study demonstrate that the reporting of assets using CCCE does not achieve economic interpretability in most cases. Glick (1986) suggests that more meaningful financial statements can be produced by adjusting the reported current values for the deviations of the actual exchange rates from the purchasing power parity exchange rates. The adjustments needed to offset the exchange rate purchasing power parity deviations in the reporting of assets are provided in this study.

If corporations were to provide supplemental information regarding acquisition dates and current costs of assets and liabilities, and either parity deviations or the exchange rates at the time of the acquisitions, financial statement users could adjust the historical cost information to be economically interpretable. Alternatively, these adjustments could be computed by the reporting entity and provided directly to the financial statement users in the financial statements or the accompanying notes.

The next section illustrates the effects purchasing power parity deviations may have on the economic interpretability of asset values measured using CCCE. The computed percentage amounts of misstatement are then reported. The fourth section summarizes the results and the implications of the findings to the accounting for foreign operations.

EFFECTS OF PURCHASING POWER PARITY DEVIATIONS ON REPORTED ASSET VALUES

The purchasing power parity theory, an integral assumption of Beaver and Wolfson (1982, pg. 531), links the change in the foreign exchange rate between two countries to the changes in the price levels of the two countries. A change in the equilibrium exchange rate is assumed to be proportional to the change in the ratio of the foreign price level to the domestic price level. Given the evidence by Frenkel (1981) and Branson (1983) (as well as others) that the purchasing power parity theorem does not hold in either the short or the medium term, this analysis focuses on the extent to which asset values translated using the "best" method, CCCE, may be biased.

To illustrate the effect of purchasing power parity deviations on the economic interpretability of reported asset values, let us assume the following. *XYZ* Corporation, a multinational corporation based in the United States, purchases fixed assets (land) in three countries during year t. At the time of the purchase the U.S. dollar value for each of the investments is $100.00. The exchange rates for the three countries at the time of acquisition are: Country A: 3.5 local currency units to $1.00; Country B: 20 local currency units to $1.00; and Country C: 1 local currency unit to $1.00.

In local currency units, the cost of the asset purchases is 350.00 in Country A, 2000.00 in Country B, and 100.00 in Country C. For simplicity, assume that during period T the foreign inflation rate is 10% in each of the three countries and there is no inflation in the United States. For simplicity, let us further assume that the current value of the assets in each of the countries rises at the general rate of inflation in that country.

The current values of the assets at time t+T in the local currency units are: Country A: 385.00 (350.00 * (1.10)); Country B: 2200.00 (2000.00 * (1.10)); and Country C: 110.00 (100.00 * (1.10)).

Assume that at time t+T the current exchange rates, foreign currency units to U.S. dollars, are: Country A: 4.50 local currency units to $1.00; Country B: 21.00 local currency units to $1.00; and Country C: 1.10 local currency units to $1.00. The foreign currency translated current values reported in the corporation's financial statements will be: Country A: $85.56 (385.00 / 4.50); Country B: $104.76 (2200.00 / 21.00); and Country C: $100.00 (110.00 / 1.10). Note that by construction of the example, the economic value of the asset measured in U.S. dollars is $100.00!

The value reported in the financial statements of the asset in Country A using CCCE translation understates the economic value of the asset by $14.44 (a positive parity error of 14.44%; (4.50 - 3.85) / 4.50) while the reported value of the asset in Country B overstates the economic value by $4.76 (a parity deviation of - 4.76%).[2] Only for Country C is the reported value of the asset consistent with its economic value.

The failure of the reported asset values (using CCCE) to portray the economic value of the assets is due to the purchasing power parity deviations for Country A and Country B. The purchasing power parity exchange rates are 3.85 local currency units per $1.00 and 22.00 local currency units per $1.00 for Country A and Country B, respectively. The actual exchange rates are 4.50 local currency units per $1.00 for Country A and 21.00 local currency units per $1.00 for Country B.

The preceding simple example illustrates the difficulty of developing a foreign currency translation method that achieves economic interpretability when the exchange rate neutral-

Table 1. Mean, Standard Deviation, and Range of Reported Bias by Country

Country	*Mean*	*Standard Deviation*	*Minimum*	*Maximum*
Australia	-.06	.13	-.36	+.15
Austria	-.50	.37	-1.13	+.04
Belgium	-.23	.26	-.71	+.22
Bolivia	-5.18	25.37	-151.87	+.27
Brazil	-7.08	10.71	-45.37	-.15
Canada	+.14	.07	+.01	+.24
Chile	-.11	.74	-2.49	+.65
Columbia	-.09	.33	-.84	+.30
Costa Rico	+.12	.38	-1.08	+.49
Cyprus	+.05	.17	-.36	+.30
Denmark	-.37	.35	-1.07	+.07
Ecuador	+.01	.43	-1.09	+.42
Egypt	-.01	.23	-.50	+.33
El Salvador	-.85	.32	-1.37	-.07
Finland	-.12	.19	-.40	+.23
France	-.20	.20	-.64	+.09
Germany	-.27	.27	-.69	+.15
Guatemala	+.08	.27	-.81	+.31
Haiti	-.25	.22	-.96	+.06
Honduras	+.34	.21	-.30	+.55
Iceland	-.19	.27	-1.19	+.16
India	+.39	.23	-.11	+.63
Iran	+.18	.42	-1.34	+.65
Ireland	-.23	.20	-.52	+.10
Israel	-.66	1.22	-5.52	+.18
Italy	-.18	.18	-.57	+.14
Jamaica	-.00	.39	-1.37	+.42
Japan	-.81	.80	-2.53	+.19
Kenya	+.03	.22	-.86	+.35
Luxembourg	-.18	.22	-.67	+.22
Malaysia	+.12	.14	-.17	+.31
Malta	+.17	.14	-.11	+.38
Mexico	-.11	.52	-1.87	+.37
Morocco	+.07	.20	-.44	+.39
Netherlands	-.29	.33	-.90	+.19
Netherlands Antilles	+.04	.05	-.07	+.12
New Zealand	-.31	.20	-.88	+.01
Nigeria	-1.16	1.22	-4.82	+.24
Norway	-.22	.28	-.76	+.11
Pakistan	+.36	.24	-.07	+.65
Panama	+.30	.14	+.02	+.46
Paraguay	-.01	.32	-.69	+.42
Peru	-7.81	19.74	-102.01	-.07
Philippines	-.22	.24	-.92	+.35
Portugal	-.57	.37	-1.32	+.01
Sierra Leone	-.02	.34	-1.69	+.30
Singapore	-.18	.12	-.43	+.08
South Africa	+.02	.18	-.70	+.22
Sri Lanka	+.26	.41	-.25	+.87
Sweden	-.12	.20	-.53	+.17

(continued)

Table 1. (Continued)

Country	*Mean*	*Standard Deviation*	*Minimum*	*Maximum*
Switzerland	-.59	.53	-1.47	+.09
Syria	-1.18	.55	-2.47	-.02
Thailand	.00	.09	-.17	+.14
Trinidad	+.04	.11	-.13	+.34
Turkey	-.13	.50	-1.41	+.42
United Kingdom	-.14	.16	-.38	+.17
Uruguay	-1.26	1.07	-4.37	+.75
Venezuela	+.17	.46	-1.04	+.62
Zambia	-.35	.79	-2.61	+.31

ity condition, assumed by Beaver and Wolfson (1982), is violated. Accordingly, this example portrays the practical significance of the problem pointed out analytically by Glick (1986).

One might presume from the example that the ideal is to maintain the dollar value of the asset over time. This would imply that the use of historical costs translated at the historical exchange rate would be appropriate. Unfortunately, this results in well known problems regarding the economic interpretability of historical cost data.

EMPIRICAL ANALYSIS

To determine the extent to which reported asset values may be misstated due to purchasing power parity deviations when CCCE is employed, the percentage deviation from parity is computed for a sample of 59 countries. This computation is based on a year-end 1996 reporting date and computes the percentage error that results if assets were acquired during each of the years from 1961 to 1996 and reported in 1996 using CCCE. The translation error and, accordingly the correction needed to reflect economic interpretability, is determined for each of the 36 years. Table 1 reports the average translation error, the standard deviation of the error across time, as well as the minimum and maximum errors for the 59 countries in this analysis.

Note that a positive parity error results in an understatement of asset values since more local currency units are required to purchase a U.S. dollar. Alternatively, when less (than parity) local currency units are required to purchase a U.S. dollar, a negative parity error occurs and the economic values of the assets are overstated in U.S. dollars.[3]

For example, the percentage parity deviation for an asset acquired in 1961 and reported using CCCE is –.17 for Australia. The reported asset value is overstated by about 17 percent, an amount that is probably material and certainly inconsistent with the accounting notion of conservatism. However, the reported value in 1996 for an asset purchased in 1973 is understated by about 11 percent. For the 36 years of potential asset acquisition, the reported asset value is overstated 23 times and understated 12 times.

In addition to the sign of the average parity errors across countries, the magnitude of the parity errors varies both across time and across countries. For instance, Australia has thirteen periods out of thirty-six in which the magnitude of the error is less than 10 percent.

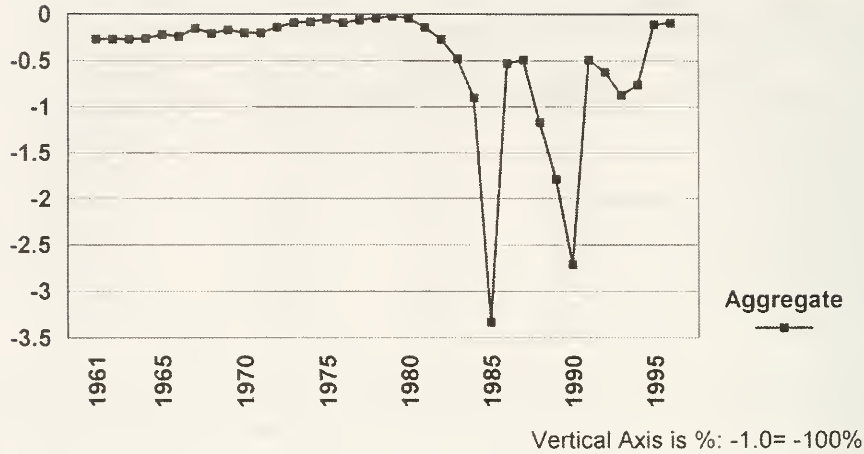

Figure 1. Average Aggregate Parity Error

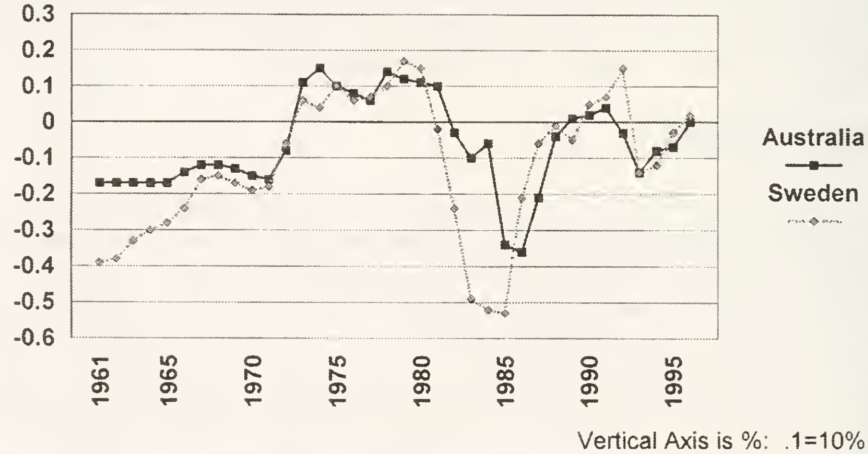

Figure 2. Parity Errors for Australia and Sweden

However, Brazil has twenty-six periods in which the magnitude of the error is greater than 100 percent.

The magnitude of the error is rather small for many countries. In instances in which the error is small, the current values of assets translated at current rates may be reasonably interpretable. Examples of countries with minor, on average, deviations from the parity exchange rate are Ecuador, Egypt, Jamaica, Kenya, Netherlands Antilles, Paraguay, Sierra Leon, South Africa, Thailand, and Trinidad. On the other hand, a number of countries have numerous years in which the magnitude of the error exceeds 100%—Bolivia, Nigeria, Peru, Syria, and Uruguay.

The patterns of the computed parity deviations indicate that the magnitudes of the errors as well as the signs of the errors are not consistent over time. If the errors are not system-

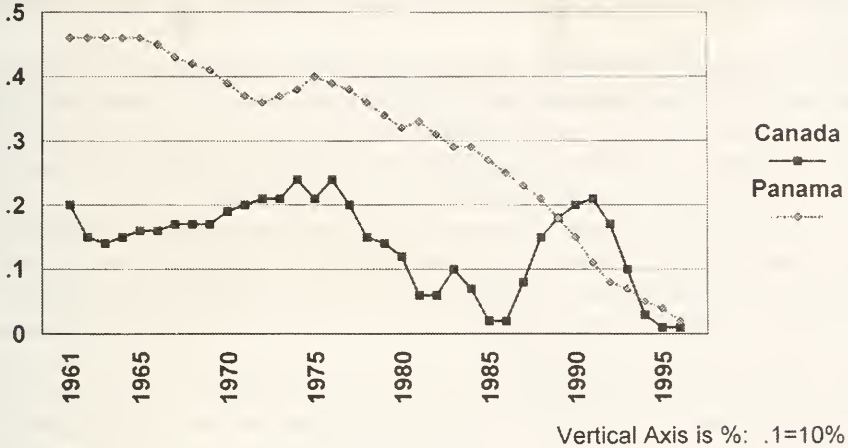

Figure 3. Parity Errors for Canada and Panama

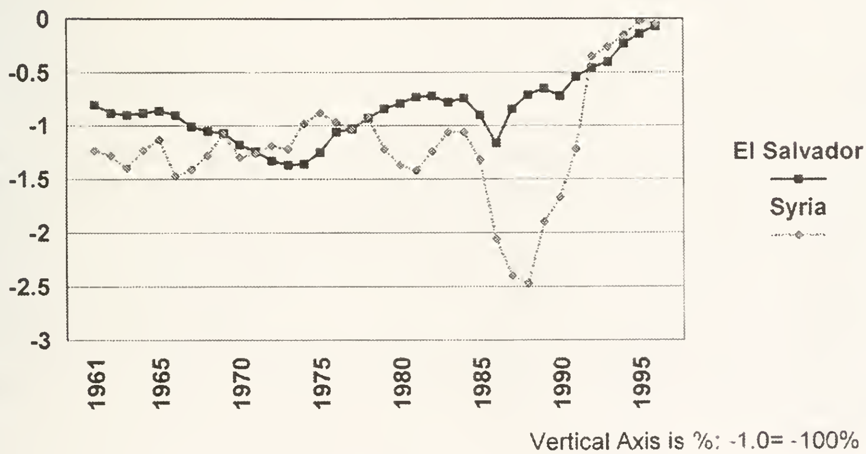

Figure 4. Parity Errors for El Salvador and Syria

atic, one cannot easily adjust for the parity deviation without knowing the composition of the assets and the periods of acquisition.

Figure 1 portrays the mean percentage errors for each of the 36 years in this analysis. Generally speaking, these results suggest an overall negative error, which implies an overstatement of the reported values. However, these overall mean negative errors are driven by a few extreme negative outliers.

To illustrate the longitudinal patterns, the percentage parity errors are graphed for a few example countries. Figure 2 shows the patterns of two countries, Sweden and Australia, in which the pattern is mixed in sign over time. This indicates that one cannot readily know whether the reported assets are overstated or understated without knowing the years in which the particular assets were acquired. In essence, information regarding acquisition dates is needed in order to make the information economically interpretable. The information user cannot know the direction or the magnitude of the bias unless the acquisition date is known.

Figure 3 illustrates two countries, Panama and Canada, in which the parity deviation is positive over all the years analyzed. In this case, the current values of assets translated at current exchange rates are systematically understated. A financial statement user knows the general direction of the error and only needs the specific acquisition information to determine the magnitude.

Figure 4 depicts the patterns for El Salvador and Syria, two countries in which the deviations are negative over all of the years in the analysis. For these two countries, the economic values of the assets are overstated when the current values are translated at the current rate of exchange. Again, the sign of the error is known but acquisition information is required to determine the magnitude.

Table 2 classifies the 59 countries into the three types of patterns, positive deviations, mixed sign deviations, and negative deviations. For countries with a systematic pattern, the sign of the misstatement is known but the magnitude of misstatement is not known without detailed analysis. For the 59 countries studied, only two countries display a systematic positive parity deviation (understatement of economic values) while another four countries possess a systematic negative parity deviation (overstatement of economic values) when CCCE is applied. Fifty-three of the countries have a mixed pattern with both positive and negative parity errors. The financial statement user does not know either the sign of the misstatement or the magnitude unless more detailed information is provided.

One might expect the greatest deviations from purchasing power parity occurred when the Bretton Woods agreement was still intact; exchange rates were not allowed to float until the Smithsonian Agreement of 1971. This would result in greater parity deviations for the 1960's with smaller deviations from the early 1970's onward. However, many countries continued to lock their currency onto the dollar and maintained a relatively fixed exchange rate policy after the Smithsonian Agreement. The results in Figure 1 suggest that the deviations immediately following the Smithsonian Agreement, 1972 through 1980, were relatively small with larger deviations both in the earlier (pre-1972) and later (post-1980) periods.

Table 2. Countries Classified by Systematic Deviations (Errors)

Systematic Positive	*Systematic Negative*	*Mixed*
Canada	Brazil	Australia Austria Belgium Bolivia Chile
Panama	El Salvador	Colombia Cyprus Denmark Ecuador Egypt
	Peru	Finland France Germany Guatemala Honduras
	Syria	Iceland India Iran Ireland Israel Italy Jamaica
		Japan Kenya Luxembourg Malaysia Malta
		Mexico Morocco Netherlands Netherland
		Antilles New Zealand Nigeria Pakistan
		Paraguay Philippines Portugal Sierra Leone
		Singapore Sri Lanka Sweden Switzerland
		Thailand Trinidad & Tobago Turkey
		United Kingdom Uruguay Venezuela Zambia

SUMMARY AND CONCLUSIONS

This study demonstrates that the notion of economic interpretability is not achieved when foreign subsidiary financial statements are translated using the current cost and current exchange rate method advocated by Beaver and Wolfson (1982). As pointed out analytically by Glick (1986), when there are significant deviations from the conditions of exchange rate neutrality, the value of the foreign operations is misstated.

In addition, the results of this study indicate that the degree of misstatement is unique both across time and across countries. For many countries (53 out of 59) the sign of the misstatement varies across years and a financial statement user needs to know the date the asset was acquired in order to correctly understand its value when it is translated from the foreign currency to U.S. dollars.

From a policy point of view, these results imply that the Financial Accounting Standards Board may not be able to achieve economic interpretability in foreign currency translation when the conditions of market neutrality fail to exist. Purchasing power parity has not existed in foreign exchange rates in the past and it will probably not exist in the future. In fact, the magnitudes of the deviations have gotten even larger during the later 1980's and early 1990's.

The most promising foreign currency exchange rate method, CCCE (Beaver & Wolfson, 1982), fails when the exchange rates are not consistent with the underlying price level changes. For the current cost data translated at the current exchange rate to be made more meaningful, additional disclosures need to be provided regarding the historical exchange rates in effect when assets were acquired and the current exchange rate at the date of the financial statement. In addition, a schedule of when the assets of the entity were acquired is necessary. This information, in combination with the current costs of the assets, may allow the user to more accurately assess the results of operations and the financial position regarding foreign operations.

Given the complexity and volume of information that would need to be provided, we suggest two alternatives. One approach would be to provide the additional information only when the magnitude of the misstatement is greater than some threshold amount or percentage. A second approach would be to only provide the supplemental information only for periods in which a significant amount of assets was acquired.

NOTES

1. It is assumed that general price level changes and specific price level changes are the same This simplifying assumption is necessary in order to focus on the general effects that are introduced when purchasing power parity fails to hold and allows this analysis to focus on the assumptions made by Beaver and Wolfson (1982) and questioned by Glick (1986). Failure of this assumption to hold indicates that the reported asset values may be even less economically interpretable.
2. Percentage Parity Error = [(Actual Current Exchange Rate) - (Parity Current Exchange Rate)] / (Actual Current Exchange Rate). Parity Current Exchange Rate = Original Exchange Rate at Time of Acquisition * [(1 + Foreign Inflation Rate) / (1 + Domestic Inflation Rate)].
3. Percentage Parity Error = [(Actual 1996 Exchange Rate) - (Parity 1996 Exchange Rate)] / (Actual 1996 Exchange Rate) where Parity 1996 Exchange Rate = Original Exchange Rate * [(1 + Foreign Inflation Rate) / (1 + Domestic Inflation Rate)]

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The International Journal of Accounting

Harmonization of Foreign Currency Translation Practices: Canadian Treatment of Long Term Monetary Items

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Key Words: International Harmonization; Foreign Debt; Foreign Currency Translation; Canada

Abstract: *The harmonization of accounting practices requires that local practices be restricted. An example is the outstanding proposal to change the Canadian accounting treatment of foreign debt. Proposed changes include elimination of the deferral and amortization of translation adjustments; a uniquely Canadian accounting treatment that is now at odds with internationally accepted practices. The likely result will be greater recognition of translation adjustments in current earnings. This study is the first to examine the impact of the proposed changes on the reported leverage and profitability of Canadian companies. The impact is found to be significant.*

The potential benefits of harmonized financial reporting practices are significant and compelling. More comparable financial statements will facilitate inter country transactions and investments and promote international capital market development. With such goals in mind, the International Accounting Standards Committee (IASC) established its "comparability project" in 1989, which involves the creation of more restrictive international accounting standards.[1] An accelerated standard setting program was established to create a complete, comprehensive set of rules by 1999.

While the IASC has no mechanism to enforce international standards, the standards it issues have gained wide acceptance, through negotiation and consultation. The movement to adopt international standards is demand driven, as businesses rely increasingly on international capital markets for financing and as international trade and investment expand. Also, in order to attract capital market business, many national security markets now accept financial information that is compatible with international standards, rather than requiring full restatement to local GAAP. Consequently, most multinational firms now prepare financial reports consistent with international accounting standards.

International accounting standards are also useful as a focus for debate and as models for national standard setting bodies. As international standards become more restrictive under

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The International Journal of Accounting, Vol. 33, No. 4, pp. 415-431 **ISSN: 0020-7063.**

the comparability project, they are having an increasingly visible impact on the formation of accounting policies around the world. In several instances, the new more restrictive international standards have prompted national standard setters to reexamine national practices that are no longer compatible with international standards. It is through this reassessment of incompatible practices that national standards are expected to adjust, creating more comparable worldwide reporting practices.

A natural conflict exists between national standard setting and global standardization, because harmonization cannot accommodate the needs of specific local circumstances. Local accounting practices can be expected to persist, because while multinational firms are highly visible, most business involves local firms in local markets. Local accounting methods have adapted to local business environments, providing relevant information in each context, so it is not clear that harmonized accounting methods would result in more useful information. In addition, international standards may be less flexible and less adaptive to both changing and specialized circumstances. Finally, there are several issues regarding how international standards should be developed, and whether one set of standards should apply universally to all firms, regardless of size, industry and ownership arrangements (public vs. private).

The disadvantages of international harmonization include less flexibility and the use of methods not necessarily well suited to local business environments. The potential costs of increasing the comparability of accounting standards should be weighed against the benefits of harmonization. A first step in assessing the impact of a new international standard on local accounting must be the measurement of the impact of the new standard on reported results for local enterprises.

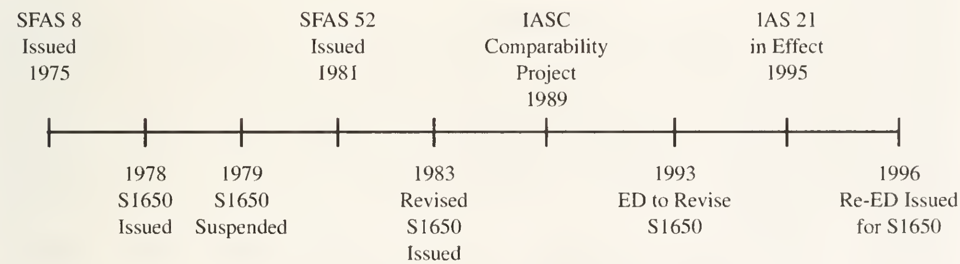
One of the new more restrictive rules is IAS 21, "Accounting for the Effects of Changes in Foreign Exchange Rates", which came into effect on January 1, 1995. It is a significant international standard in the Canadian context, since it eliminates a well established, uniquely Canadian accounting treatment for foreign debt. Because the deferral and amortization of foreign debt adjustments may be the accounting treatment best suited to the Canadian economic environment and to Canadian business and financing practices, its elimination provides an example of the impact of the new, more restrictive IASC approach under the comparability project. This study is the first to estimate the impact of the proposed change in accounting standards on the financial reports of Canadian firms.

The Canadian tradition has been to reduce the income statement impact of exchange rate volatility, first by a voluntary preference for recording foreign debt at historic exchange rates, and then by deferring and amortizing translation adjustments when current exchange rate translation became mandatory. IAS 21 established as a benchmark treatment the recognition of exchange gains and losses on long-term monetary items in income of the current period.[2] The defer and amortize approach was eliminated.

The introduction of IAS 21 therefore poses a challenge for Canadian standard setters, since the Canadian treatment of translation adjustments on foreign currency debt is no longer an acceptable international practice. Canadian foreign currency translation guidelines are set out in CICA Handbook Section 1650. In order to conform with IAS 21 and to address other issues relating to foreign currency translation, an exposure draft proposing changes to Section 1650 was first issued in September 1993. It proposed to eliminate deferral and amortization of foreign debt adjustments as the usual Canadian practice, for foreign currency debt not identified as a natural hedge of foreign assets or revenues. This exposure draft was withdrawn, due to respondent concerns. A re-exposure draft, issued in May 1996, remains outstanding.

This paper begins with a review of the evolution of translation practices for foreign debt in Canada (Section II). Section III includes a discussion of the economic effects of accounting choice, potential costs of imposing mandatory accounting standards generally, and specific evidence of corporate reactions to foreign currency accounting policies. In Section IV we examine the foreign exchange environment in Canada and illustrate the treatment of translation adjustments that would occur for a Canadian borrower of foreign debt under both the immediate flow through and the defer and amortize approaches. Then in Section V we assess the impact of proposed changes in Section 1650 on Canadian firms. We first document the incidence and importance of foreign debt financing for Canadian firms and then we estimate the effect of the proposed rule change on reported earnings and reported equity. The final section contains a summary and concluding remarks (Section VI).

Panel A: Time Line of Significant Events



Panel B : Treatment of Translation Adjustments on Foreign Currency Debt

Standard	*Treatment*
SFAS 8	Immediate flow through
S1650	Immediate flow through
SFAS 52	Immediate flow through
Revised S1650	Defer and Amortize if Debt not identified as a natural hedge
IAS 21	Immediate flow through if Debt not identified as a natural hedge and Hedge accounting treatment for Debt identified as a natural hedge
S1650 ED	Immediate flow through if Debt not identified as a natural hedge and additional requirements for hedge identification and treatment of Debt identified as a natural hedge
S1650 Re ED	Reaffirmation of requirement of immediate flow through if Debt not identified as a natural hedge and modified treatment of adjustments on Debt identified as a natural hedge

Figure 1. Evolution of North American Foreign Currency Translation Standards

THE EVOLUTION OF TRANSLATION PRACTICES FOR FOREIGN DEBT IN CANADA

Canadian business enterprises make extensive use of foreign capital to satisfy their financing needs. This financing pattern has developed for a number of reasons. As a primary resource producing nation with a significant manufacturing base, Canada is home to many capital-intensive industries. Domestic capital markets have been unable to fully meet the demand for investment funds, in part because Canadian government debt requirements have tended to account for a significant portion of available capital. Also, while Canada has historically had relatively illiquid capital markets, it is conveniently situated next to the largest capital market in the world - the U.S. market. Borrowing U.S. funds has been advantageous, as it has provided Canadian firms with a natural hedge of the foreign exchange exposure that arises from exporting primarily to the U.S. market and/or at U.S. dollar-based prices. Further, since many Canadian firms have U.S. subsidiaries that generate U.S. dollar revenues, the foreign revenue streams of Canadian multinationals are also well matched with U.S. dollar financing. Canadian firms therefore rely heavily on foreign financing, particularly U.S. dollar financing, and many have U.S. dollar revenues and assets as well.

North American companies have traditionally translated foreign debt at historic (date of issue) exchange rates. Almost half of the US firms examined by Dukes (1978) and the majority of the Canadian firms in Booth and Rotenberg (1991) voluntarily selected the Current-noncurrent method prior to the imposition of mandatory translation standards. Noncurrent items like long term foreign debt are translated at historic exchange rates under this translation method, so that the Canadian dollar book value of the debt is invariant to exchange rate changes.

See Figure 1 for a brief summary of the evolution of North American foreign currency translation standards, which are described in more detail below.

The initial North American foreign currency translation standards (SFAS 8 and the original S1650) required that all firms employ a uniform translation method, involving current rate translation of foreign currency debt. These translation standards proved to be highly controversial. The US FASB was bombarded with complaints that the standards introduced unnecessary volatility into corporate income statements (see Dukes 1978 for a discussion). As a result of such complaints, original S1650 was suspended and never came into effect. New translation guidelines were introduced (SFAS 52 in the US and revised S1650 in Canada), that took a situational approach, recognizing that exposure to exchange rate changes depends upon the nature of the firms' foreign operations. Although these standards provided more flexibility, the most popular method of accounting for foreign operations prior to the introduction of these standards, namely the Current-nonCurrent method, was not among the accepted alternatives. This meant that all foreign currency debt, whether on the books of the parent firm or its subsidiaries, now had to be translated at current, year end, exchange rates.

In 1983, the first mandatory standard, revised S1650, that came into effect in Canada was a very significant change for most companies, as they were newly required to translate foreign debt at current exchange rates. This raised the issue of how to deal with resulting translation adjustments. SFAS 52 provided for immediate flow through of translation adjustments on unhedged foreign debt, versus the corresponding standard in Canada, revised Section 1650, did not. Rather, a compromise approach to dealing with translation adjustments was adopted in revised Section 1650, and remains in effect. This is to defer and amortize the translation adjustments over the remaining life of the debt.

Under the defer and amortize approach, if exchange rates fluctuate, translation adjustments have less of an effect on interim earnings reports and result in a less volatile, more informative earnings stream. If rates continue to move in one direction, however, the result is escalating charges to income, rather than the intended dampening effect. Also, the later in the life of the loan an exchange rate change occurs, the more impact it will have on reported earnings.

While Canadian accounting standards currently require that translation adjustments on foreign debt be deferred and amortized, if the debt is identified as a natural hedge of foreign assets or revenues, adjustments are often simply deferred. Rotenberg (1989) finds that only 22 of 177 sampled public Canadian firms did elect hedge accounting treatment of translation adjustments on their foreign debt. Most firms were therefore following the defer and amortize approach when IAS 21 became effective. The outstanding CICA Handbook Section 1650 exposure draft would follow suit with IAS 21, requiring translation adjustments on non-hedged debt to flow immediately through income.

Quite apart from any international harmonization pressures, it is possible that changes in the Canadian economic environment or financial management practices justify the proposed changes in accounting treatment for foreign debt. For example, Hunt (1993) suggests that Canadian firms now recognize exchange exposure as a separate risk that can and should be managed, so that immediate recognition of the outcome of any unhedged exposures has become more appropriate for Canadian firms. Further, the current hedge accounting provisions in Section 1650 involve complete deferral of translation adjustments on long term debt identified as a natural hedge of foreign assets or revenues. This may not properly reflect the underlying economics of the hedge relationships, since if a natural hedge is in place, unexpected exchange rate movements have an equal and offsetting effect on foreign assets/revenues and on foreign liabilities. Hence partial flow through of the translation adjustments on foreign debt should be allowed, for revenue hedges, as the revenues materialize. This is the rationale behind the new hedge accounting provisions proposed in the outstanding S1650 exposure draft. Firms must explicitly designate the hedging instrument and the hedged exposure at the inception of hedge accounting. Then, as designated revenues materialize, adjustments on the corresponding portion of the foreign debt are to be recognized in income.

To summarize, in its September 1993 exposure draft, the Canadian Accounting Standards Board (AcSB) proposed to eliminate the deferral and amortization of exchange gains and losses on long-lived monetary asset and liabilities; and introduced revised criterion for hedge accounting.[3] The former involves the elimination of a uniquely Canadian accounting treatment that is at odds with internationally accepted practices. The latter relates to the appropriate methods of applying hedge accounting provisions. In both cases, the result is likely to be greater recognition of translation adjustments in current reported earnings.

Many of the respondents to the 1993 Exposure Draft commented on the proposed elimination of the defer and amortize approach, both favorably and unfavorably. The AcSB, after carefully considering the comments, reaffirmed its decision to harmonize Canadian practices with International standards and with standards in the U.S. Proposed changes to Section 1650 were then re-exposed in May 1996. Comments have been invited, but the changes remain to be finalized. One reason for the delay is a desire to achieve consistent treatment of foreign exchange adjustments for foreign debt and for financial instruments more generally. Hence the AcSB is awaiting the outcome of deliberations and correspondence on another outstanding Exposure Draft, relating to Financial Instruments.

We next review how proposed changes in the Canadian treatment of translation adjustments on foreign debt can be expected to impact reported results, and discuss why such changes in reported results might be expected to have economic consequences for affected firms.

ECONOMIC EFFECTS OF ACCOUNTING CHOICE

A well established theory of voluntary accounting choice draws on the notion that a firm is a nexus of contracts between parties possessing conflicting objectives. This "costly contracting" approach has successfully explained many aspects of organizational behavior, including accounting policy choice. In fact, in their review of the contributions attributable to this "positive theory of accounting", Watts and Zimmerman (1990) note that this literature has uncovered relations between firms' accounting choices and other firm variables for which there remain no 'systematic alternative sets of explanations' (p132).

In his discussion of International accounting harmonization, Ball (1995) explains that accounting rules "are an integral part of how corporations transact. Change the accounting rules and you change how corporations behave" (p 19). This occurs because transactions require agreement on various financial measures. The link between accounting choices and contracting is then forged by the monitoring and enforcement process, which relies on accounting measures of such firm characteristics as earnings and leverage. For example, slack in compliance with lending agreements is valuable, serving as a reserve against unanticipated contingencies. Firms therefore have incentives to report high and stable earnings, and low and stable financial leverage. One element of the set of accounting choices is the selection of translation policy, which has a direct impact on the stability and growth of earnings, the degree of leverage, and the volatility introduced into financial statements.

Empirical evidence regarding translation accounting choices is uniformly consistent with there being a relationship between such choices and how they impact on reported results. Also, evidence of changes in behavior, that is changes in financial hedging, are apparent when firms are required to change the method of accounting for translation adjustments. For example, Evans, Folks and Jillings (1978) show that under SFAS 8 firms were hedging translation exposure to mitigate the increased volatility in corporate earnings.

Correspondingly, once SFAS 52 was introduced and translation adjustments had less of an effect on reported earnings, less financial hedging was conducted (Houston and Mueller, 1988).[4] Such behavior imposes real costs. Financial hedges create cash flow effects, and firms hedging their translation adjustments or book exposure with financial hedges do so at a cost. Further, evidence indicates that even in the SFAS 52, S1650 era, companies continue to hedge translation exposure using overt financial strategies and instruments, as reported in Houston (1990), Belk and Glaum (1990), and Schooley and White (1995). Similarly, activities may be structured to qualify for hedge accounting, and thereby to avoid taking translation adjustments directly to income (see Beier and Herz, 1994, for a discussion).

The evidence therefore points strongly to corporations acting to reduce the impact of translation adjustments on reported earnings. Canadian evidence is consistent with this finding. Canadian companies, particularly those with high leverage and low reported earnings, that might be more sensitive to contractual constraints, have a demonstrated preference for foreign debt treatment that avoids the recognition of translation adjustments in current income. This is accomplished by translating foreign currency debt at the historic exchange rate (ie pre S1650), as shown in Booth and Rotenberg (1991). Another way to avoid taking current translation adjustments on long term debt to income is to elect to use the current hedge accounting procedures, identifying the foreign currency denominated debt as a natural hedge of foreign assets or revenues, and deferring translation adjustments on the debt. Rotenberg (1989) provides evidence that hedge identification is indeed related to firm characteristics. She reports a correspondence between hedge identification and whether the firm had high leverage or low reported income. Hence hedge identification appeared to be used by firms vulnerable to violating their contractual relations with lenders and other providers of financing.

This study estimates the impact on reported results of eliminating the defer and amortize treatment of translation adjustments on foreign debt. It will also investigate the extent to which Canadian companies are now using the hedge accounting treatment of foreign debt and whether this accounting treatment is related to firm characteristics.

ILLUSTRATION AND EXCHANGE RATE ENVIRONMENT

The current S1650 requires that long term debt be translated at the rate in effect on the balance sheet date with any exchange gains or losses being deferred and amortized on a systematic and rational basis over the remaining life of the debt. The outstanding exposure draft proposes immediate recognition of exchange gains or losses on translation of long-term debt, unless the debt meets the criteria for hedge accounting. The impact of the proposed change on reported results depends on the behavior of exchange rates over the life of the debt, on the use of foreign debt financing, and on whether firms identify their debt as a natural hedge.

Table 1. Canada-US Exchange Rates over 1982 to 1992 Period

Year	*Opening Rate*	*Closing Rate*	*Change from prior year*	*Cumulative Change from year-end 1982*
1982	n/a	.8138	-	-
1983	.8138	.8036	-1.3%	-1.3%
1984	.8036	.7566	-5.8%	-7.0%
1985	.7566	.7152	-5.5%	-12.1%
1986	.7152	.7244	+1.3%	-11.0%
1987	.7244	.7696	+6.2%	-5.4%
1988	.7696	.8386	+9.0%	+3.0%
1989	.8386	.8632	+2.9%	+6.1%
1990	.8632	.8621	-.1%	+5.9%
1991	.8621	.8654	+.4%	+6.3%
1992	.8654	.7868	-9.1%	-3.3%

Notes: Expressed as US dollar per Canadian dollar.
Source: Bank of Canada Review, various issues.

Table 1 illustrates the translation adjustments on a US$1m loan, for a Canadian borrower, over 1982 to 1992. It is appropriate to focus on the US$/Canadian$ exchange rate because the vast majority of foreign Canadian corporate debt is denominated in US dollars. This is a natural tendency, given the high proportion of Canadian trade that is conducted with the U.S. and/or is trade in international commodities that are priced in U.S. dollars.[5] Canadian foreign direct investment is also concentrated in the United States. Hence, most Canadian firms experience exchange related gains on foreign assets and revenues, and losses on foreign monetary obligations if the Canadian dollar depreciates relative to the U.S. dollar. This was the case during our sample period (1982 to 1992).

Table 2. Income Impact of Translation Adjustments on a US$ 1 million Debt for a Canadian Firm over 1982 to 1992

Panel A: Annual and Cumulative Translation Adjustments

Year	*Cdn$ Value of US$1 million*	*Change in Cdn$ Value of US$1 million from prior year*	*Cumulative Change in Cdn$ Value of US$1 million from year-end 1982*
1982	1,228,803	-	-
1983	1,244,400	+15,597	+15,597
1984	1,321,702	+77,302*	+92,899**
1985	1,398,210	+76,508	+169,407
1986	1,380,453	-17,758	+151,650
1987	1,299,376	-81,077	+70,573
1988	1,192,464	-106.913	-36,340
1989	1,158,480	-33,983	-70,323
1990	1,159,958	+1,478	-68,845
1991	1,155,535	-4,423	-73,268
1992	1,270,971	+115,436	+42,168

Notes: *the exchange rate change in 1984 results in a current year translation adjustment of $77,302.
**the exchange rate change from year end 1982 to year end 1984 results in a cumulative translation adjustment of $92,899.

Panel B: Income Impact of the Defer and Amortize Approach

Year	*Current year Adjustment**	*Amortization Period (in years)*	*Annual Amortized Amount*	*Total Amortization for the year*
1982	-	-	-	-
1983	+ 15,597	10	1,560	1,560
1984	+ 77,302	9	8,589	10,149**
1985	+ 76,508	8	9,564	19,713
1986	- 17,758	7	-2,537	17,176
1987	- 81,077	6	-13,513	3,663
1988	- 106,913	5	-21,383	-17,720
1989	- 33,983	4	-8,496	-26,216
1990	+ 1,478	3	493	-25,723
1991	- 4,423	2	2,212	-23,511
1992	+115,436	1	115,436	91,925

Notes: *the current year adjustment is the total impact on the Canadian dollar value of the US dollar denominated $1 million debt as calculated in Panel A above.
* total amortization for the year is the sum of annual amortizations from prior years, so that in 1985 the total amortization is $19,713, which is the sum of $1,560 arising from 1983, plus $8,589 arising from the exchange rate change in 1984 and $9,564 arising from 1985.

The 1992 fiscal year was selected for study as it is the year immediately preceeding the S1650 exposure draft first suggesting the elimination of the deferral and amortization approach. Table1 tracks exchange rates over 1982 to 1992 and shows that the Canadian to U.S. dollar exchange rate is quite volatile. Annual changes average approximately 4 percent per year (in absolute terms). The cumulative changes are considerably smaller, with only a 3.3% cumulative change over the entire 10 year period. While the Canadian dollar devaluation of 9.1% in 1992 is roughly double the annual average change, there are several other years in the 1982 to 1992 period where the exchange rate changes were large. In 1988, for example, there was a 9% appreciation of the Canadian dollar.

To illustrate the effect on the Canadian dollar value of US dollar liabilities, Table 2 Panel A displays the year to year and cumulative effect on a $1 million US loan for a Canadian borrower over the same 10 year period. The Canadian dollar value of the loan increases and decreases over the period, with a cumulative adjustment of $42,168 (a loss to the Canadian borrower who has to repay in US dollars). In some years the adjustments are very large. For example, in 1992 there was a loss of $115,436 Canadian on the outstanding liability. These are the effects on reported earnings, under the immediate flow through approach.

The right hand column of Table 2 Panel B shows charges to income under the defer and amortize approach for the same $ 1M US, 10 year loan. In any particular year, the total amortization is the cumulative sum of annual amortization amounts for the current and prior years. For example, in 1985, $19,713 is taken to income. Of this amount, $1560 is the annual amortization of the 1983 translation adjustment, $8589 is the annual amortization of the 1984 translation adjustment, and $9564 is the annual amortization of the 1985 translation adjustment. Note also that each year, amortization of the current years' adjustment is spread over a shorter time period, so it has a bigger impact. For example, the $15,597 adjustment in 1983 is spread over a 10 year amortization period, while the $115,597 adjustment in 1992 is taken to income all in one year. Also, note that the direction of the charge to income can be inconsistent with economic events of the time period, as happens in our example for the first time in 1986. In 1986 the current year adjustment is a gain of $17,758 while a loss of $17,176 is charged to income. Finally, note that the average income impact is less when the defer and amortize approach is used, because of exchange rate reversals. In absolute value terms, the average annual charge is $53,048 for immediate flow through (this is the average of the current year adjustments from the left hand column of the table) and only $23,736 for deferal and amortization (this is the average of the total amortization amounts for the year, from the right hand column of the table).

This illustration demonstrates how exchange rate behavior affects the reported value of a hypothetical $1 million US dollar long term debt obligation, under both the immediate flow through and the defer and amortize approaches. We next estimate the impact of the proposed immediate flow through of exchange adjustments for a sample of Canadian borrowers, based on their actual financing practices.

DATA DESCRIPTION AND ASSESSMENT OF IMPACT

Observed financing behavior reveals that Canadian firms are obtaining significant foreign debt financing. Rotenberg (1989) documents that in a 1984 sample of 177 firms, on average, 34.4% of the corporate debt was foreign currency denominated. Similarly, the 1993 annual CICA survey of financial reporting practices of 300 large Canadian companies (in 1992) identifies 118 of the firms as reporting debt payable in foreign currency.

To identify companies affected by the proposed changes in accounting standards for foreign currency debt, we began with the Micromedia Cancorp database. It includes over 8500 Canadian companies (public, private and crown corporations). The database includes the full text of annual reports and full text searches can be performed using key words or phrases. Various search terms were applied and the resulting company fields identified were noted. The company lists were compared in an attempt to determine which search term or phrase would best identify those firms with foreign debt financing. For example, the phrase "Foreign Debt" resulted in a list of only 5 companies. The phrase "Exchange Gain or Loss" resulted in a list of 60 companies. The phrase "Foreign Currency Translation" resulted in a list of 214 firms, etc. Using the 1992 annual reports, the search term "translation" was used and provided an initial list of 367 companies. Examination of the full text of the annual reports for these firms resulted in the identification of 144 firms with foreign currency debt, for which complete data was available. Of these 144 firms, 22 identified their foreign debt as a natural hedge of foreign assets or revenues.[6]

Disclosures on the Magnitude and Treatment of Translation Adjustments

Regarding disclosures about translation adjustments, the 1993 CICA survey indicates that just 32 companies disclosed the amount of exchange gains/losses included in reported income (including the current amortization of adjustments for long term monetary items as well as translation adjustments arising from foreign subsidiary financial statements). Specific disclosures about the deferral of exchange gains and losses on long term monetary items were provided for 86 companies in the CICA survey, but they were incomplete. Fifty firms made reference to this item without describing the amounts involved, 29 disclosed deferred charges or credits, and 7 disclosed only that some amount had been included with long term debt. An examination of footnote disclosures in our sample reveals a similar lack of detail. The appendix contains excerpts from the annual reports of two sample firms, one which identifies some of its long term debt as a natural hedge (Abitibi-Price) and one which does not (Canadian Pacific). These examples illustrate that without detailed disclosures, it is not possible to precisely measure the expected impact of a change in translation adjustment treatment. Instead, estimates must be made.

Hedge Identification Disclosures

In their footnote disclosures, 22 of the 144 sample firms identified their foreign currency debt as natural hedges of their foreign assets and/or revenue streams. Table 3 provides how the firms described their "hedge" identification policies in their footnote disclosures. Fully half of the hedge identifiers recognize the foreign debt on subsidiaries books as natural hedges of the subsidiary assets or revenues. Eight specified that it is foreign debt on the parent firms' books that is serving to hedge parent firm foreign currency denominated assets or revenues. Rather than flowing through annual adjustments, the proposed hedge accounting provisions will require these firms to defer and recognize the adjustments along with the other side of the hedge, as it materializes. Firms that self select hedge identifica-

Table 3. Hedge Accounting Identification and Footnote Disclosures

Frequency	*Description*
11	Foreign debt on books of subsidiary to hedge subsidiaries' assets or revenues
7	Foreign debt on books of parent to hedge parent revenues or assets
1	Foreign debt on books of parent to hedge subsidiaries' operation
1	Revenues designated as a hedge against repayment of foreing currency denominated long term debt
1	Liability hedged by net investment
1	Use balance sheet assets denominated in foreign currency to hedge foreign currency denominated liabilities
22	

Table 4. Descriptive Statistics for 1992

Variable		*Full sample n = 144*	*Hedgers* n = 22*	*Other n = 122*	*t-statistic** (2 tail p)*
Market Value of Equity ($millions)	Mean (Std Dev)	1340 (3953)	846 (1019)	1429 (4272)	1.28 (.20)
Total Assets ($millions)	Mean (Std Dev)	2112 (4780)	2237 (2412)	2089 (5098)	-.21 (.83)
Proportion of Foreign Assets (percent)	Mean (Std Dev)	36.6 (27.7)	40.9 (25.0)	35.7 (28.2)	-.79 (.43)
Proportion of Foreign Sales (percent)	Mean (Std Dev)	38.9 (30.1)	40.4 (22.4)	38.5 (31.5)	-.25 (.80)
Proportion of Export Sales (percent)	Mean (Std Dev)	8.8 (19.7)	9.3 (19.7)	8.8 (19.8)	-.12 (.91)
Proportion of Foreign Debt (percent)	Mean (Std Dev)	42.7 (185.5)	27.2 (20.8)	45.6 (202.0)	.43 (.67)

Notes: *Hedgers are those firms that identified their foreign debt as a natural hedge of foreign revenues or assets for accounting purposes, allowing them to defer realization of translation adjustments in income until the hedge unwinds or becomes ineffective.

**Difference of means t-tests are conducted to examine whether the hedge identifiers differ significantly from the non hedge identifiers, for each variable described in the table.

tion may have different characteristics from those that do not, so they will be assessed separately throughout this study.

Descriptive Statistics

We next provide descriptive statistics for the sample firms, in Tables 4 and 5. Table 4 shows that the 144 firms are large, with an average market value of equity of $1.34 billion

Table 5. Descriptive Statistics for 1992 Continued

Variable		*Full sample* *n = 144*	*Hedgers** *n = 22*	*Other* *n = 122*	*chi-square*** *(2 tail sig)*
Cross-Listed	Frequency	39	6	33	.000
	(percent)	(27.1)	(27.3)	(27.0)	(.983)
Derivatives	Frequency	68	13	55	1.47
Use	(percent)	(47.2)	(59.1)	(45.1)	(.226)
Foreign Subs	Frequency	124	22	102	4.19
	(percent)	(86.1)	(100)	(83.6)	(.041)

Notes: *Hedgers are those firms that identified their foreign debt as a natural hedge of foreign revenues or assets for accounting purposes, allowing them to defer realization of translation adjustments in income until the hedge unwinds or becomes ineffective.

**chi-square tests are conducted to examine whether the hedge identifiers differ significantly from the non hedge identifiers, for each variable described in the table.

Canadian dollars and an average book value of assets of $2.1 billion. The average proportion of foreign to total assets, sales and debt are 36.6, 38.9 and 42.7 percent, respectively. These firms clearly have significant foreign involvement. Export sales by the parent firm accounted for an average of 8.8 percent of total sales, so the bulk of foreign currency sales are being made by affiliates in foreign locations rather than as parent firm exports. Note that hedge identifiers and non-hedge identifiers do not differ, statistically significantly, on any of these dimensions.

Table 5 includes descriptive statistics on count variables. About one fourth of the sample are cross-listed companies, for both hedge identifiers and non hedge identifiers. The next variable, disclosed use of financial derivatives, is intended to indicate the complexity of financial hedging arrangements. It is found to be more frequent for those firms identifying foreign debt as a natural hedge, although this difference is not significant at conventional levels. That is, 59.1 percent of hedge identifiers but only 45.1 percent of non hedge identifiers disclose use of financial derivatives. Finally, fully 124 of the 144 firms have foreign subsidiaries and all of the hedge identifiers have foreign subsidiaries.

As might be expected, the use of foreign debt financing is related to firm characteristics. The proportion of foreign financing is positively correlated with the proportions of both foreign revenues and assets. The correlation of the foreign debt to total liability ratio with the proportions of foreign revenues and foreign assets is .16 and .89, respectively. Both are significant at conventional levels (10% and 1%, respectively). Also, cross-listed firms and firms with foreign subsidiaries tended to have higher proportions of foreign financing. Cross listed firms have average foreign financing percentages of .47, compared with only .32 for non cross listed firms. Similarly, firms with foreign subs have average foreign financing percentage of .44, compared with only .34 for firms without foreign subs. Rank tests show that these relationships are significant at the 4.5% and 10.7% levels, respectively.

Firms employing foreign currency debt therefore tend to have higher degrees of foreign involvement, as measured by their proportions of foreign revenues and assets, and the existence of export sales. They also tend to be cross-listed, so that they have both domestic and foreign shareholders.

Table 6. Foreign Currency Debt Issues Outstanding for Sample of 144 Canadian Firms as at Year End 1992

Panel A: Description of Debt by Currency

Foreign Currency	*# Companies*	*% Companies*
US ($)	133	92.4
UK (Pound)	16	11.1
Switzerland (Fr)	12	8.3
Australia ($)	7	4.9
Germany (DM)	7	4.9
New Zealand ($)	5	3.5
Italy (Lira)	5	3.5
Japan (Y)	4	2.8
France (Fr)	4	2.8
Netherlands (Guilder)	3	2.1
Malaysia (Ringgit)	1	.7
Spain (Pesata)	1	.7

Panel B: Companies with Multiple Currency Debt Issues Outstanding

Number of Currencies Used	*Number of Companies*
1	111
2	22
3	5
4	4
5	2
	144

Impact of Proposed Immediate Flow Through Approach

We next estimate the effect of proposed changes to Section 1650 for nonhedged debt. We do this by measuring the magnitude of an immediate flow-through adjustment, relative to the market value of equity, and to reported earnings.

Table 6A shows that for the 144 sample firms, there was foreign debt outstanding in 12 different currencies at year end 1992. The use of US$ financing dominates, with 92.4% of sample firms having US$ debt. Table 6B shows that 33 of the firms have multiple currency debt issues outstanding, but most use just one or two currencies of debt denomination.

As explained above, we must estimate the translation adjustments of the firms, since translation adjustments on long term debt are either not disclosed at all, or are combined with other translation effects. To do this we obtained start and end of year exchange rates in 1992 for all currencies of debt in the sample. The percentage exchange rate changes over the year are shown in Table 7. Relative to every currency except the Italian Lira and the Spanish Pesata, the Canadian dollar depreciated during 1992. Most sample companies therefore experienced translation losses on their foreign debt obligations.

To calculate the translation gains/losses, footnote disclosures of foreign currency face values of outstanding debt at year end were then multiplied by these exchange rate changes to estimate translation gains/losses for the year in Canadian dollar terms. Table 8 shows

Table 7. Exchange Rate Changes in 1992

Currency	*US$ per currency unit at year-end 1991*	*Cdn$ per currency unit at year-end 1991*	*US$ per currency unit at year-end 1992*	*Cdn$ per currency unit at year-end 1992*	*Change in Cdn$ during 1992*
US ($)	1.0000	.8654	1.0000	.7867	- 9.1%
UK (Pound)	1.8707	1.6188	1.5120	1.1895	-26.5%
Switzerland (Fr)	1.3555	1.1730	1.4560	1.1455	- 2.4%
Australia ($)	.7598	.6575	.6886	.5417	-17.6%
Germany (DM)	1.516	1.3119	1.614	1.2698	-3.2%
New Zealand ($)	.5411	.4682	.5143	.4046	-13.6%
Italy (Lira)	1151.1	996.11	1470.9	1157.19	+16.2%
Japan (Y)	125.2	108.34	124.75	98.14	- 9.4%
France (Fr)	5.18	4.4825	5.5065	4.3321	- 3.4%
Netherlands (Guilder)	1.7104	1.4801	1.8141	1.4272	- 3.6%
Malaysia (Ringgit)	2.724	2.3572	2.5945	2.0411	-13.4%
Spain (Pesata)	96.69	83.67	114.62	90.17	+ 7.8%

Source: International Financial Statistics, International Monetary Fund, various issues.

Table 8. Estimated Impact of Immediate Flow Through of Translation Adjustment on Foreign Currency Debt for year end 1992

Variable		*Full sample n = 144*	*Hedgers* n = 22*	*Other n = 122*	*t-statistic (2 tail p)*
Translation	Mean	-28.93	-25.69	-29.52	.33
Adjustment ($millions)	(Std Dev)	(68.71)	(44.68)	(72.33)	(.74)
Adjustment to	Mean	-.60	-2.60	-.24	-2.81
Net Income	(Std Dev)	(3.72)	(8.62)	(1.60)	(.006)
Adjustment to	Mean	-.17	-.04	-.19	.93
Market Value of Equity	(Std Dev)	(.67)	(.05)	(.73)	(.36)

Note: *Hedgers are those firms that identified their foreign debt as a natural hedge of foreign revenues or assets for accounting purposes, allowing them to defer realization of translation adjustments in income until the hedge unwinds or becomes ineffective.

that the translation adjustments are significant, averaging $28.93 million. This is 60% of reported earnings and 17% of the market value of equity for sample firms.

The magnitude of the immediate flow through adjustment for each firm depends on the degree of foreign financing, the currencies of denomination, and the exchange rate changes during the year under study. As noted earlier, the 9.1% devaluation of the Canadian dollar against the US dollar in 1992 is roughly double the annual average for the preceeding 10 year period, but there are many years with sizeable exchange rate changes. The impact of proposed changes to S1650 would be material in most years, due to the high proportion of foreign financing by Canadian firms.

Proposed immediate flow through of translation adjustments on foreign debt will therefore directly and materially affect reported earnings and leverage for Canadian companies. Contractual arrangements may be affected, if they are monitored and enforced using accounting measures. Another potential economic consequence of the proposed change is that firms may respond by altering their foreign exchange risk management practices.

Also reported in Table 8 is the ratio of the estimated translation adjustment to both income and the market value of equity, for firms that do and do not identify their foreign debt as a natural hedge. Prior studies have found that firms electing hedge identification tend to be closer to their ratio constraints, reporting low earnings and high financial leverage. Hedge identifiers might therefore be expected to be firms for which the immediate flow through of translation adjustments would have a greater effect on reported earnings and assets. In this sample, hedge identifiers do have a higher proportion of translation adjustments to reported earnings. The impact on reported earnings is the main characteristic of hedge identifiers, as the difference in the ratio of translation adjustments to market value of equity is not significant.

CONCLUSION

Canadian firms are heavy borrowers of US funds and have traditionally not taken translation adjustments on their foreign debt to current income. The defer and amortize approach that was adopted in 1983 is no longer internationally acceptable, under IAS 21, and is under review. The results reported here show that the elimination of this uniquely Canadian accounting method will have a significant effect on the reported earnings level, and its volatility, for Canadian firms. As the evidence from Canada and elsewhere indicates consistently that management behavior is affected by how foreign currency translation adjustments must be reported, a reduction in financial reporting flexibility can be expected to impose costs on Canadian companies. Such local costs are presumably smaller than the global benefits of creating more comparable financial reporting information.

Acknowledgments: Funding provided by the Canadian Academic Accounting Association and the Canadian Institute of Chartered Accountants is gratefully acknowledged.

APPENDIX: EXAMPLES OF DISCLOSURES ON THE TRANSLATION OF FOREIGN DEBT

Abitibi-Price (Hedge identifier)

On the December 31, 1992 Balance Sheet, an unrealized loss on translation of long -term debt payable in U.S. funds is disclosed, in the amount of $6.9 million.

Significant Accounting Policies include the following description of the treatment of translation adjustments on foreign debt: " Exchange gains or losses on translation are included in earnings, with the exception of those which arise on the translation of long-term debt payable in U.S. funds. Such gains or losses which relate to debt that hedges the net investment in self-sustaining U.S. subsidiaries and joint ventures are included in shareholders' equity, while the balance, if any, which relates to debt that is hedged by a future income stream denominated in U.S. funds, is deferred and included in earnings in the same years as the income stream".

Foreign currency denominated debt identified in a footnote include the following:

$74.6 million of 10.65% Sinking Fund Debentures, Series H, maturing 2000 (U.S. $58.7 million)

$190.6 million Floating Rate Term Loan, Maturing 1994 (U.S. $150 million)

$122.5 million Floating Rate Cumulative Term Loan, maturing 1993 (U.S. $96.4 million)

Canadian Pacific Limited (Not a Hedge identifier)

On the December 31, 1992 Balance Sheet, foreign currency translation adjustments of $219.4 million are disclosed, a portion of which may relate to long-term debt.

Significant Accounting Policies include the following description of the treatment of translation adjustments on foreign debt: " With the exception of unrealized gains and losses on long term monetary assets and liabilities, which are being amortized to income over the remaining lives of the related items, foreign currency gains and losses are included in income immediately".

There are no foreign currency denominated debt issues specifically identified in the footnote describing long term debt, although a Deutsche Mark bond issue had been outstanding in the amount of $25 million as at year end 1991. Rather, a general statement is made about currency denomination of outstanding debt, as follows: "At December 31, 1992, foreign currency long term debt, denominated principally in United States dollars, amounted to $4,509.6 million."

NOTES

1. The IASC issued E32 "Comparability of Financial Statements" on January 1, 1989.
2. Foreign debt identified as a natural hedge of foreign assets or revenues receives hedge accounting treatment. Immediate flow through of translation adjustments is the benchmark treatment for foreign debt not designated as a natural hedge.
3. Three revised criteria for hedge accounting were introduced in the September 1993 Exposure Draft. Firms are required to (1) explicitly designate the hedging instrument and the hedged exposure at the inception of hedge accounting, to (2) claim a high degree of correlation between the currencies if different currencies are used in the hedging instrument and in the hedged exposure, and to (3) claim a high probability that a change in the reporting currency amount of the exposure being hedged will counterbalance exchange adjustments on the hedging instrument.
4. Houston and Mueller (1988) report a 16 percent reduction in outright forward transactions between US banks and nonfinancial customers during the SFAS 52 implementation period (1980 - 1983), despite a 44 percent increase in total foreign exchange trade by banks over the same period. Their exploration of corporate hedging activities shows less overt financial hedging following the replacement of SFAS 8 with SFAS 52, and they offer survey results attributing the reduction in hedging to the change in accounting standards.
5. The April/May edition of the Bank of Canada review contains an annual analysis of Canada's trade. Trade with the U.S. is typically 70 to 80% of the total and there is a heavy emphasis on natural resource exports.
6. While Rotenberg (1989) also observed 22 hedge identifiers in a related but different sample of Canadian firms, for an earlier time period, only 6 of the hedge identifiers are the same companies in both samples.

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The International Journal of Accounting

Relationship of Tax and Financial Accounting Rules in Anglo-Saxon Countries

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Key Words: Alignment; Anglo-Saxon countries; Book-tax relationship; Financial accounting; Income tax.

Abstract: *In this paper, we examine the relationship of tax rules and financial accounting rules in Anglo-Saxon countries. In particular, we review the historical developments of the book-tax relationship in three Anglo-Saxon countries: the United States, the United Kingdom, and Australia. We identify the major sources of divergence between the two sets of rules in these countries, and briefly discuss the implications of an alignment of tax with financial accounting rules.*

To various degrees, income tax laws in different countries rely on financial accounting principles and practice to determine the quantum of taxable income derived from a business. In a study conducted by the Organization for Economic Co-operation and Development (OECD) Working Group on Accounting Standards (1987, p. 9), three main types of relationships between financial accounting rules and tax rules were identified in OECD member countries. First, there were countries where accounting practices were dictated by tax rules. An example quoted was Norway where book entries contrary to tax rules were not permitted. The second type of relationship was that accounting rules and tax rules were independent of each other. Countries adopting this approach included the USA, the UK, and the Netherlands. Finally, in countries such as France, Germany, and Italy, financial statements drawn up according to accounting rules were used to determine the basis of income tax assessment.

Nobes and Parker (1995) identify factors such as legal systems, major providers of finance to business enterprises, influence of taxation, and strength of accounting profession as the main causes leading to international differences in financial accounting and reporting. These factors also explain the international differences in the relationship of tax and financial accounting rules. In continental European countries, typically accounting principles are part of the codified commercial law. The major providers of finance are the State

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The International Journal of Accounting, Vol. 33, No. 4, pp. 433-454 **ISSN: 0020-7063.**

or banks who are the users of financial reports, so uniform financial statements are produced to serve the purposes of credit provision, taxation, and economic planning by the State. In these countries, accounting profit and taxable income are used by a rather homogeneous group of users and the two numbers are expected to be more or less identical.

By contrast, Anglo-Saxon countries generally adopt a common law system. The major providers of finance are the public who demand true and fair or fairly presented financial statements based on generally accepted accounting principles (GAAP)[1] to assess management performance and make investment decisions. Corporate law in these countries typically only requires a provision of periodic financial reports to investors and other users, leaving the detailed accounting rules to be prescribed by the accounting profession and corporate regulators. On the other hand, tax law in these countries typically imposes tax on income without defining precisely and exhaustively the meaning of the word. It is up to the courts and the tax administrators to interpret the meaning of income for tax purposes. Thus, accounting income and taxable income are two concepts developed by different authorities, and used by heterogeneous groups of users serving different purposes.

Lamb et al. (1995) compared the influence of taxation on accounting in four countries to determine whether there was a clear distinction between Anglo-Saxon countries and some continental European countries. The countries studied were the UK, the USA, France and Germany. They found some support for the claim that it is possible to distinguish Anglo-Saxon countries from continental European countries according to the relative strength of tax influence on accounting. However, they also found that France could be distinguished from Germany using the same criteria, and the UK could be distinguished from the USA. Thus, the dichotomy of Anglo-Saxon model and continental European model oversimplifies the complex pattern of reciprocal influence observed between taxation and financial reporting in the countries under study.

In recent years, due to globalization of capital markets, large corporations in continental European countries which seek quotation of their shares on stock exchanges in New York and London are required to produce financial reports in accordance with the accounting rules of the USA and the UK. This development has helped to promote the acceptance of international accounting standards which are based mainly on the GAAP of Anglo-Saxon countries. There is a tendency for corporations in continental European countries to provide two sets of financial reports: financial reports for individual companies according to domestic accounting rules (which have a close link to tax rules) for domestic users, and consolidated financial reports based on international accounting rules for use by international investors and regulatory agencies (Nobes & Parker, 1995; Whittington, 1995).

In an opposite direction, there have been calls for an alignment of accounting profit and taxable income in Anglo-Saxon countries such as Australia, the UK, and the USA. It has been argued that alignment of the two sets of rules could improve the perceived equity of the tax system, reduce tax compliance costs, and enhance tax compliance levels. For example, in the early 1980s a large number of US firms reported significant earnings in their financial statements but paid very little in taxes;[2] thus a book income adjustment of the alternative minimum tax[3] was introduced to tax the difference. If the reported accounting profit in a firms financial statements exceeded the minimum taxable income, then the firm had to pay a tax on a portion of the excess.

In this article, we review the historical developments of the relationship of tax and financial accounting rules in three Anglo-Saxon countries, the USA, the UK, and Australia, and demonstrate that the book-tax relationship varies among Anglo-Saxon countries. We then compare the objectives and the evaluation criteria of the tax and financial reporting systems and identify the main areas of divergence of the two sets of rules in these countries. Although not specifically examined, similar divergence of tax and financial accounting rules can also be found in Canada (see e.g., Denega, 1965; Royal Commission on Taxation, 1966) and New Zealand. We conclude with an analysis of the feasibility and desirability of alignment.

The purpose of this article (and its contribution to the literature) is twofold. First, by analyzing previous literature, we present a systematic description of the book-tax relationship in Anglo-Saxon countries, so as to enhance the understanding of this relationship and to stimulate further discussion and research on this relationship. Second, at various times the American, the British, and Australian governments have considered trying to achieve greater alignment of tax and financial accounting rules. We provide a foundation to enable policymakers in the countries where book-tax alignment is currently an issue (e.g., Australia) to evaluate the feasibility and desirability of such an alignment objective and to make better informed policy decisions.

The remainder of the article is organized as follows. The historical developments of the book-tax relationship in three Anglo-Saxon countries are reviewed country by country in the following section. Next, we identify the sources of divergence of the two sets of rules in these countries. In the final section, we summarize our findings from the literature review and briefly discuss the feasibility and desirability of a book-tax alignment.

HISTORICAL DEVELOPMENTS IN THREE ANGLO-SAXON COUNTRIES

Although in the OECD study, GAAP and tax rules are considered to be two separate sets of rules in Anglo-Saxon countries, a closer examination of the tax laws in these countries reveals some degree of connection between the two. The three subsections below review the historical developments of the book-tax relationship in the USA, the UK, and Australia.

The United States

In the USA, Federal income tax is based on the taxable income of an individual or of a corporation. Under the US *Internal Revenue Code of 1986*, as amended (the Code), computation of taxable income begins with gross income. For a corporation, taxable income equals gross income minus allowable deductions. A corporation's gross income from business is its net sales less cost of goods sold (i.e., gross profit), plus other investment income earned (e.g., dividends and interest) and gains from the sale of non-inventory property (capital gains). Gross income then is reduced by allowable ordinary and necessary expenses to arrive at taxable income. For an individual, the difference between gross income from all sources and allowable deductions is adjusted gross income, from which standard or itemized deductions (e.g., medical expenses and charitable donations) and allowances for personal and dependency exemptions are subtracted to arrive at taxable income.

US tax law has long recognized the fundamental dependence of the concept of taxable income on approved accounting practice. Under Section 446 of the 1986 Code, taxable income is computed according to the accounting method regularly employed in the taxpayer's books of account, provided that the method so used clearly reflects the taxpayers income. Thus, superficially tax rules and accounting rules in the USA are inseparable, because taxable income from business cannot be determined without referring to GAAP.

Similar provisions could be found some 80 years ago in Section 212(b) of the *Revenue Act of 1918* (May, 1949, p. xviii). It appears that the US Congress did not want to develop tax accounting[4] methods. Instead, it assigned this responsibility to tax administrators the Internal Revenue Service (IRS). The US Congress did not define what is a clear reflection of income. It did state, however, that income measurement would be subject to any subsequent Treasury Regulations. Thus, financial accounting rules were adopted for tax purposes subject to the regulation of the US Treasury.

Between 1920 and 1960, most court decisions supported tax and financial accounting conformity. The US Supreme Court appeared to rely on GAAP when it adopted the realization principle in *Eisner v. Macomber* (1920) 252 US 189. In *United States v. Anderson* (1926) 229 US 422, the US Supreme Court suggested that the accrual method used for financial accounting purposes was acceptable for tax purposes unless it did not clearly reflect income. Treasury Regulations and Committee Reports issued during this time period also suggested an accord between tax and financial accounting, with indications that GAAP clearly reflected income for tax purposes (Seago & Horvitz, 1980).

The LIFO inventory situation in the USA provides a good example of how alignment occurs. LIFO was first used for financial accounting purposes in 1936. Gertzman (1988) provides an historical description of the LIFO inventory method. The petroleum industry wanted to use the method for financial accounting purposes and in 1934 its representatives approached the American Institute of Accountants (AIA), predecessor to the American Institute of Certified Public Accountants. The AIA granted approval in 1936. Soon after certain other industries were permitted to use it. but official AIA approval for all firms did not occur until 1947. The Treasury (IRS) refused to accept the method, but Congress changed the law and permitted LIFO use for tax and financial accounting purposes. In the *Revenue Act of 1939*, Congress permitted all taxpayers to use LIFO and also added the conformity requirement. Taxpayers who use LIFO for tax purposes also must use it for reports or statements to shareholders, partners, proprietors, beneficiaries, and creditors. The provision was amended slightly in 1942.

Unfortunately, Congress did not provide any rationale for its decision. All Congressional documents at that time were silent as to why conformity was required. Many believe that conformity was required to give legitimacy to LIFO as an inventory method. Revenue Ruling 74-586, 1974-2 CB 156, indicates that the purpose of the conformity requirement was to give assurance that the LIFO method clearly reflects income. In a 1979 Tax Court case,[5] the court indicated that the underlying intent behind the LIFO conformity requirement was to ensure that the use of LIFO for tax purposes conformed as nearly as possible to the best accounting practice in the trade or business in order to provide a clear reflection of income. In a 1981 District Court case,[6] the court reiterated the Tax Courts position and indicated that the conformity requirement was designed to establish prima facie evidence that at the time of election the taxpayer believes that LIFO provides a clear reflection of income.

Thus, the alignment imposed by Congress was designed to assure that the taxpayer used an accounting method that clearly reflects income. The fact that it would be used for financial accounting purposes established the clear reflection of income and shows that in this instance Congress implicitly relied on financial accounting in deciding what was appropriate for tax purposes.

In the late 1960s the Tax Court and Seventh Circuit Court of Appeals, in finding for the taxpayer, indicated that GAAP did provide a clear reflection of income, clearer than the method the IRS wanted to impose.[7] In 1970, the Court of Claims also held that GAAP were admissible evidence in determining whether income was clearly reflected.[8] Seago and Horvitz (1980, p. 7) further noted that the court suggested that the goal should be to reconcile business and tax treatment of an item and not to drive them further apart.

However, on balance, the reliance on GAAP for tax purposes began to decrease in the 1960s. In 1961, the US Supreme Court clearly stated that a method based on GAAP did not imply that for tax purposes income was clearly reflected and therefore binding on the government.[9] In a similar case four years earlier the Supreme Court also disregarded the taxpayers financial accounting method because it did not clearly reflect income.[10] The Court also developed an all events test to determine if certain transactions clearly reflect income, regardless of their financial accounting treatment.[11] In 1976, in *Eastman Kodak Co. v. the United States* (1976) 534 F.2d 252, the Claims Court rejected the use of GAAP because although the taxpayers method was in conformity with GAAP it violated the all events test and as such did not clearly reflect income.

Recognizing the growing divergence of the two sets of rules in 1970, the US President's Task Force on Business Taxation (1970) noted that the divergence had resulted in unnecessary complexity and controversy. It suggested that the objective of GAAP and tax accounting was basically similar—the determination of net income of the business on an annual basis. The Task Force, which included academicians, tax policy analysts and practitioners, recommended that the US Treasury Department and Congress take steps to reduce the differences between the two sets of rules. The Treasury Department appeared to respond to this by adopting some type of conformity policy: the IRS announced that changes in accounting methods would be approved only if the taxpayer was changing to a method also used for financial accounting purposes (IRS, 1971). However, the American Institute of Certified Public Accountants (AICPA) issued a policy statement in favor of closer conformity between financial and tax accounting but opposed any mandatory financial statement eligibility test (The Tax Adviser, 1971). It was concerned that such a requirement would negatively impact the formation of accounting principles. Accounting principles might start to favor tax-saving methods.

The conformity program was short lived and apparently not very far-reaching. There was no Congressional action on the issue and by 1981 the IRS appeared to be moving away from conformity. The AICPA expressed a general presumption that conformity was desirable provided (a) it acknowledged the existence of factors which might overcome that presumption, and (b) it did not have a materially adverse effect on the improvement or application of GAAP (Raby & Richter, 1975). Its position at that time was to favor conformity of tax rules to financial accounting rules but generally to oppose conformity of financial accounting rules to tax rules (Weinman, 1981). Apparently the AICPA did not want the government to determine GAAP.

The final and most complete rejection of GAAP and financial accounting for tax purposes occurred in a 1979 US Supreme Court case, *Thor Power Tool* (1979) 439 US 522. In this case the taxpayer followed GAAP completely in accounting for its inventory. The Court agreed fully with the IRS in ruling that the method did not clearly reflect income;

conforming to GAAP did not create a presumption in favor of the taxpayer. GAAP appear to have had no relevance in determining a clear reflection of income for tax purposes. The Court clearly stated the different objectives of financial accounting and tax accounting and suggested that such differences precluded an accord between them. This decision, and specific articulation of the differences, is often cited and is far reaching in that it is applicable to all methods of accounting, not just the inventory procedure in question.

Initially financial accounting and tax accounting were in some accord. However, the reliance on financial accounting has eroded over time. The unstated definition of clear reflection of income led the IRS and the courts to define the phrase based on tax policy objectives and concepts. This produced a divergence because such objectives do not appear to be in conformity with those of financial accounting. An additional concern of tax policymakers was the potential negative effects of conformity on tax revenues and/or capital markets. The potential negative effect of conformity on the tax policy objectives of the investment tax credit (ITC) was cited in the 1970s. Here concern was expressed that financial accounting rules might impede the fiscal (tax) policy goals underlying the implementation of the ITC (Arnold & Keller, 1980).

Concern over the negative effects of earnings management on tax revenues was noted by the US Supreme Court in the *Thor Power Tool* case where it stated that if management's elections among acceptable options were dispositive for tax purposes, then a firm could decide unilaterally, within limits only dictated by accountants, the tax it wished to pay.

Additionally, numerous concerns have been expressed about earnings management as a result of the US Tax Reform Act of 1986, especially the enactment of the alternative minimum tax book income adjustment. Evidence of earnings management has been found by Boynton et al. (1992), Dhaliwal and Wang (1992), Gramlich (1991, 1992), Guenther (1994), Guenther et al. (1996), Manzon (1992), Matsunaga et al. (1992), Maydew (1995), Mills (1996), and Scholes et al. (1992).

The United Kingdom

The *Income and Corporation Taxes Act (ICTA) 1988* in the UK charges tax according to the sources from which income arises: land, business, employment, etc. For historical reasons such as privacy protection (Ross & Burgess, 1991, p. 36), income is classified and chargeable to tax under five Schedules (A, C, D, E and F) depending on its source. Business profits are covered by Schedule D. Incomes under different Schedules are aggregated into total income from which reliefs (e.g., medical insurance and personal reliefs) are deducted to calculate taxable income. The taxable income of a company is computed in much the same way as that of an individual.

According to Section 18(1) of *ICTA 1988*, tax under Schedule D is charged on the annual profits of a business. It is the profit or net income, rather than gross income as in the USA, that is brought into the tax base. However, tax legislation in the UK does not prescribe the rules to determine the annual profits for tax purposes. One reason why the British tax statute imposes tax on profits without referring to accounting principles or practice is that when income tax was re-introduced in the UK in the early nineteenth century,[12] there were still no widely accepted accounting principles on which to rely. By contrast, when the USA enacted its income tax legislation after the Sixteenth Amendment to the Constitution in

1913,[13] commercial accounting was already well developed. According to May (1949, p. xviii), when the *Revenue Act of 1918* was drafted by the US Treasury, technical input had been contributed by a triumvirate of a distinguished economist, an outstanding accountant and a brilliant lawyer. Presumably, the role of the accountant in the triumvirate was to operationalize the concept of income as it was applied to business by referring to accounting principles. Thus, Edwards (1976, p. 302) reckoned that if accounting procedures had been well developed at the time income tax was introduced in Britain, accounting profit would have been adopted by the early UK income tax legislation.

Nonetheless, it was decided in 1892 in *Gresham Life Assurance Co., Ltd v. Styles* 3 TC 185 that profits must be ascertained on ordinary principles of commercial trading. This principle has been amplified in later cases. In *Duple Motors Bodies Ltd v. Ostime* (1961) 39 TC 537, Viscount Simonds said (at p. 566):

> ...two considerations must be borne in mind: first,...the ordinary principles of commercial accounting must, as far as practicable, be observed, and, secondly,...the law relating to income tax must not be violated...that is to say, by one means or another the full amount of profits or gains must be determined.

Thus, a presumption made in the British income tax law is that the taxpayer shall prepare a profit and loss account for each accounting period in accordance with GAAP, and the profit computed in this account will form the basis of the income tax assessment, subject to any adjustments that may be required by the statute or by precedents established by the courts.

Even though ordinary principles of commercial accounting must be considered in determining the amount of taxable profit, the UK courts have recognized the subjectivity of accounting methods and have eschewed the accounting approach on many occasions (Hill, 1996). Freedman (1987, p. 70) noted that the court's original intention in referring to accounting practice was to use this as a reflection of the ordinary, natural meaning of profits, and not to incorporate accounting practice and all its developments into tax law. Thus, in *Heather v. P.E. Consultancy Group Ltd* (1973) 1 All E.R. 8, Lord Denning said (at p. 13):

> The courts have always been assisted greatly by the evidence of accountants. Their practice should be given due weight; but the courts have never regarded themselves as being bound by it. It would be wrong to do so.

Radcliffe (1993) observed that the UK courts exercised their discretion to override GAAP in three circumstances. First, if a statutory provision required adjustment of accounting profit, the provision would prevail over accounting treatment; e.g., non-deductibility of entertainment expenses. Second, any accepted accounting method was subject to review by the courts to determine if it was the correct principle of commercial accountancy to be applied in the circumstances, especially when there existed more than one acceptable method. Third, accounting principles must yield to certain underlying principles of tax law established by judicial decisions. Examples of principles of tax law established by the courts are (a) the distinction between capital and revenue expenditure; (b) the principle that neither profits nor losses may be anticipated, and (c) the principle that revenue expenditure is deductible in the year in which it is incurred.

The degree to which UK courts were receptive to GAAP varied over time. Freedman (1995, p. 435) noted that *Minister of National Revenue v. Anaconda American Brass Ltd*[14] (1956) AC 85 and *Willingdale v. International Commercial Bank Ltd*[15] (1978) 52 TC 242 marked the peaks of assertion of judicial supremacy over GAAP in determination of taxable profit. However, a few recent court decisions, notably *Gallagher v. Jones*[16] (1993) STC 537 and *Johnston v. Britannia Airways*[17] (1994) STC 763 showed the tendency of the UK courts to accept Statements of Standard Accounting Practice (SSAPs) as the correct principles of commercial accountancy to be applied to determine taxable profit in preference to principles of tax law. Freedman (1995) suggested a few reasons for this trend: increased professionalism, increased comprehensiveness of financial accounting and reporting standards, and the legislative recognition conferred to these standards. Apparently the changes in the accounting environment in the UK have assured the judges that they can rely on accounting standards which have gone through the rigorous formulation process of the standard-setter the Accounting Standards Board (ASB).

Broke (1995), Macdonald (1995), and White (1987) argued that the courts could continue to place reliance on accounting concepts and standards. Some politicians also believed that there is a strong case for harmonization of accounting and tax treatment of profits, because this would bring the UK into line with many other countries in the European Union, and would reduce compliance costs and opportunities for tax abuse.[18]

However, Whittington (1995, p. 452), who has served on the UK Accounting Standards Board and on the Meade Committee (which reviewed the UK income tax and published a report in 1978), strongly argued that the principles of taxation (e.g., equity, neutrality, and administrative effectiveness) would not allow one to adopt accounting standards as a basis for corporate tax because of the different objectives of the two systems. Administrative effectiveness requires certainty of measurement, and low cost to the taxpayer and tax collector. To that end, the tax system tends to be based on rules which are intended to be precise, and the measurement rules tend to be based on presently existing rights to receive, and obligations to pay, as a result of transactions, rather than on the accruals basis which is more subjective and contentious. Accounting standards, on the other hand, are primarily concerned with reporting past financial performance, present position, and future prospects of a business to external users. This involves trading off relevance against reliability. To provide relevant information to users of financial reports, there has been a tendency to de-emphasize the bottom line profit figure because a single number cannot meet the needs of all users, and instead to provide information which involves a high level of estimation and subjectivity, such as strategies and intentions of management. Thus, there is a need for the two sets of rules to be separately developed. This is in line with international trends.

Freedman (1987, 1993, 1995) and Green (1995) also maintained that separation of two sets of rules is desirable in furtherance of both equitable and rational taxation and good practices in financial reporting. The fact that the legal status of accounting standards has been enhanced does not mean that they are suitable for use as a basis for determining taxable income, because they are written for financial reporting purposes and not for tax purposes.

Australia

Income tax was first introduced in Australia when Tasmania imposed withholding tax on dividends, annuities and rents in 1880. A general income tax was first levied by South Australia in 1884. The Commonwealth of Australia introduced personal income tax in 1915 (Smith, 1993).

Section 17 of *Income Tax Assessment Act 1936* (ITAA) levies income tax at the rates declared by the Parliament on the taxable income derived by any person during a year. A person can be an individual or a company. In calculating taxable income, the allowable deductions incurred by a taxpayer are subtracted from the assessable income derived. The assessable income of a taxpayer includes the gross income derived directly or indirectly from all sources, but gross income is not defined in the Act. In the case of a business, gross income refers to the proceeds from business operations. Expenditures, to the extent to which they are incurred in producing the assessable income, or are necessarily incurred in carrying on a business for the purpose of producing such income, are allowed as deductions, provided they are not of a capital or private nature.

As far as income from business is concerned, the taxing scheme in Australia is at odds with the schemes in the other two Anglo-Saxon countries. First, the ITAA never refers to the accounting methods adopted by the taxpayer as in the US Code. Second, the gross proceeds of a business directly enter into the tax base, rather than its profits as in the UK tax legislation. As a result, UK judicial precedents which applied the correct principles of commercial accountancy in the determination of taxable profit do not appear to have had any significant application in Australia, despite the historical connection of the judicial systems of the two countries. Thus, unlike the USA and the UK, there is a lack of a formal relationship between tax and financial accounting in Australia. Nonetheless, Herring (1986) noted that the ITAA has incorporated some accounting practices. For instance, trading stock is taken into account under s.28 in determining taxable income,[19] and depreciation deduction for plant is allowed under s.54 of the ITAA.[20]

In general, it is not the gain that is the direct subject of income tax. Rather, the flow of gross business proceeds directly enters into the tax base, and is aggregated with the gross income from other sources to form assessable income. Business expenses and losses then are deducted therefrom in arriving at taxable income. The distinction of this flow concept of income originated from trust law and the gain concept of income adopted in the commercial world is well explained by Parsons (1986).

Generally speaking, accounting principles and practices play a limited evidentiary role in the development of judicial precedents in Australia (Blaikie, 1981). There have been cases where the judge looked to GAAP in reaching a decision, but the judge emphasized that though accounting principles and practices might assist, the Court always had the final say and was never bound by them. Herring (1986), however, observed that in recent years the judiciary appears to be placing more weight on accounting evidence, probably because business transactions have become more and more complex and accounting standards have received legal backing.

Justice Hill (1996) provided a comprehensive review of the role of GAAP in Australian tax cases. He observed that in the context of income tax, accounting principles were sometimes determinative, sometimes a guide, and sometimes rejected altogether. Accounting evidence is relevant in determining whether an amount received is income derived, and the timing of income derivation.[21] For tax purposes, judicial precedents suggest that only business income can be recognized on the earnings basis; other income is generally recognized on the cash receipts basis. When the tax law comes to taxing business income, GAAP are expected to play a role.[22] However, one difficulty for the court to rely on accounting evidence is that expert accountants assisting the two opposing parties may differ in their views as to what is the correct accounting treatment accorded to a particular situation.

The income capital distinction is a principle entrenched in tax law, but is no longer an accounting principle. Accounting evidence has rarely been accepted by the courts as elucidating the distinction between income and capital.[23] In deciding whether an expenditure or loss is an allowable deduction, the courts have taken a legal or jurisprudential analysis in interpreting the word "incurred." Accounting evidence has little part to play in deciding the time of incurrence.[24]

The matching principle in financial accounting is not accepted for tax purposes. However, Hill (1996, p. 33) observed that the Australian courts did at times require that expenditure be referable to the year(s) of income.[25] Thus, while no expenditure is deductible unless it has been incurred, it does not mean that an expenditure always is deductible in the year of incurrence. Deduction must be claimed in a later year if the expenditure is referable to that year and not to the year in which it is incurred. This principle of referability appears to be an incomplete application of the matching principle.

The lack of a formal relationship between accounting rules and tax rules in the Australian tax laws has prompted calls for the adoption of GAAP in determining taxable income for various reasons. In 1950, in a joint representation to the Commonwealth Treasurer, the Associated Chambers of Commerce of Australia, the Associated Chambers of Manufacturers of Australia, and the Institute of Chartered Accountants in Australia submitted that the adoption of accounting principles, especially the matching principle, for tax purposes would assist commercial progress by encouraging the use of proper accounting practices and by basing the tax upon the true income rather than an artificial or distorted income as in the ITAA. The Commonwealth Treasurer referred the submissions to the Commonwealth Committee on Taxation for examination and recommendations. The Committee (1954) noted that matching costs and income created many difficulties in practice. After examination, the Committee concluded that the tax act had been working satisfactorily for both the tax collectors and the taxpayers, so it recommended no major change to ITAA.

In 1975, the (Asprey) Taxation Review Committee (1975, ch. 8) reported that submissions had been received suggesting that net income for tax purposes should be determined by GAAP, subject to certain specific provisions in the tax legislation. The Committee rejected these proposals, because the law could not resign its function of determining the basis of income tax in favor of the professional bodies and business organizations which played a large part in formulating accounting principles. Also, in many areas, alternative procedures were available in accounting standards and a set of principles generally accepted by companies had yet to be developed. The Committee, however, conceded that company income tax might become a simple tax if the company already calculated its income on the same or very similar basis. Accordingly, the proper approach was to narrow the differences between taxable income and accounting profit. To build in some flexibility, the Committee felt it necessary for the Commissioner of Taxation to have statutory authority to adopt accounting principles if he considered adoption would be reasonable in the circumstances. However, since the publication of the Committees report, no action has been taken by the Parliament to confer such authority on the Commissioner.

Westworth (1985) observed that accounting standards were a codification and standardization of current practices rather than a logical extension of agreed principles. They were developed by a process of consensus rather than logical reasoning and were subjective. Accounting profit could not become the basis on which taxable income was calculated because it lacked certainty, and because tax rules were used to provide incentives under general economic policies.

On the other hand, Parsons (1986) pointed out that income tax is based on a concept of income that was designed for a different purpose. The judicial concept of income as entrenched by court decisions is based on the notion of "flow" originated from trust law, rather than an ideal notion of "gain" used in economic analysis. As such, the income tax system lacks coherence of principle and a claim to fairness. Accounting profit may be a step closer to the notion of gain, but a complete adoption of that notion requires that the realization principle be abandoned.

Cooper (1986) referred to literature in Australia, Canada, the UK, and the USA and found that invariably commentators and law reform authorities saw the conformity of tax to financial accounting as a major goal of tax reform. He examined the rules of tax accounting and contrasted them with those in financial accounting, and concluded that to narrow the discrepancy between tax and financial accounting as suggested by the Asprey Committee, the legislature or the judiciary must import into the tax system accounting principles which are not at present consistent with tax law but which can be used more accurately to determine profit.

In addressing the simplification debate, Boucher (1991, p. 282), then Commissioner of Taxation, suggested that one possible way to simplify the tax system was to improve accounting standards to make them robust, clear and otherwise suitable for the determination of the tax base, then to adopt them to determine taxable income. Another possibility was to treat a group of companies as a single tax entity so as to reduce complexity in areas such as rollover and loss transfer provisions.

In a report on an inquiry into the Australian Taxation Office, the Joint Committee of Public Accounts (1993, paragraph 5.30) of the Commonwealth Parliament recommended a redraft of the ITAA and suggested that the possible alignment of the taxation law with accounting standards and concepts would be a fundamental change to be considered.[26] Thus, the alignment option is likely to be on the agenda of the tax reform initiative of the current federal government.

If one set of rules can serve two systems well, compliance with both tax law and corporate law would be much easier for corporate taxpayers. However, alignment of tax rules with accounting rules presupposes suitability of financial accounting rules to achieve the objectives and criteria of the income tax system. Unfortunately this may not be the case. In the next section, the major causes of divergence of the two sets of rules are examined. The divergence is due mainly to the different objectives that the two sets of rules are intended to serve.

SOURCES OF DIVERGENCE OF TWO SETS OF RULES

Fayle (1990) noted that when a legally-oriented objective (such as restricting dividends to be paid only out of profits of a company) is to be achieved in the accounting standard-setting process, certainty of calculation is the main emphasis. When the objective is to provide information to control the performance of a business and to judge past success and future potential, judgment and guesses are important. As modern accounting rules are intended to produce information of which the protection of capital against unwarranted dividend distributions is but one of the many objectives, accounting rules provide a too subjective measurement of profit to meet the need of tax laws which demand a high level of precision. Fayle (1990) identified three types of relationships between tax and financial accounting rules. First, there are accounting standards which have some degree of symmetry with the tax laws. Second, there are accounting standards which cause divergence between accounting profit and taxable income. Finally, there are those accounting standards which are not relevant to tax. Some standards in the last category may, however, impound useful information that may assist indirectly in the tax compliance process.

The divergence of the two sets of rules does not suggest anything wrong with either set of rules. They differ because they are intended to achieve different objectives.

Different Objectives of the Two Systems

The objectives of each system appear to be very different. The tax system is part of the overall wealth redistribution system.[27] The primary objective of a tax system is to raise revenue for government programs. Additionally, governments use the tax system to exert control over the economy, to accomplish social objectives, and for political purposes. Balancing these objectives is a concern that the tax system meet certain criteria or standards. A tax system should be equitable, efficient (neutral), continuous, certain, convenient, and economical (see e.g., James & Nobes, 1978; Krever, 1987; Rosen, 1992; Smith, 1776; Sommerfeld et al., 1992; Stiglitz, 1988). At times these objectives and criteria may be in conflict during tax policy decision making, but presumably to some extent the government is aware of such conflicts when it makes law.

The objective of general purpose financial reporting as set forth in the Australian Statement of Accounting Concepts SAC 2 is to provide information useful to users for making and evaluating decisions about the allocation of scarce resources. General purpose financial reports (GPFR) are those intended to meet the common information needs of users who are unable to command information tailored to their specific needs. GPFR disclose information relevant to the assessment of performance, financial position, and financing and investing, including information about compliance. According to the Australian Statement of Accounting Concepts SAC 3, the information in GPFR should possess such qualities as relevance, reliability, materiality, timeliness, comparability, and understandability. Similar financial reporting objectives and qualitative characteristics of information can be found in the US Statements of Financial Accounting Concepts, and the UK Statements of Principles. Within this context certain principles, assumptions and concepts apply, such as accounting entity, accounting period, historical cost, realization, matching, going concern, conservatism, and consistency. In recent years, there has been a tendency to shift the focus of financial reporting from the profit and loss (or income) statement to the balance sheet, and to de-emphasize the profit figure[28] which is relevant to assessment of tax.

In the *Thor Power Tool* case, the US Supreme Court articulated these differences, noting that the primary goal of financial accounting is to provide useful information to management, shareholders, creditors, and others interested parties, and that the major responsibility of the accountant and auditor is to protect these parties from being misled. In contrast, the primary goal of the tax system is the equitable collection of revenue and the major responsibility of the administrator is to protect the public fisc. The US Supreme Court went on to state that given the diversity of objectives, any presumptive equivalence between tax and financial accounting would be unacceptable. This also is true for the UK and Australia.

Tax rules differ from GAAP because law-makers and administrators adopt concepts and principles which reflect the objectives and criteria of the tax system. We group these differences into four broad categories: (a) differences in the timing of recognition of income and expenditure; (b) differences arising from government policy decisions; (c) differences in the way of determining the quantum of taxable capital gains and how they are included in taxable income, and (d) differences due to the principle of substance over form or due to anti-avoidance measures. These categories are not mutually exclusive and are by no means exhaustive. They are briefly examined below.

Timing Differences

One reason why income has been selected as a tax base is that income is thought to be a good measure of a person's capacity to pay tax. To ensure the taxpayer has the wherewithal to pay tax, traditionally income is not considered to have been derived for tax purposes until the cash is received, or the taxpayer has control over the funds. This wherewithal to pay principle is explicitly recognized as a tax accounting principle in the USA, but is only implicitly applied in the tax laws of the UK and Australia. An important influence of financial accounting on income tax law is that the earnings basis of accounting based on the realization principle has been accepted as a proper basis to recognize business income for tax purposes. Thus, only income from non-business sources (e.g., property and employment) is recognized on a receipt basis; business income is derived when goods are delivered or services are rendered. By the same token, an expenditure is considered to have been incurred for tax purposes only when the taxpayer has paid for it, or has committed to a definite liability to pay.

On the other hand, due to the variety and complexity of business activities, flexibility has been built into financial accounting rules which allow management discretion to choose among a number of approved accounting methods, especially in the areas of cost allocation and asset valuation where the matching principle plays an important role and where subjective judgment is needed. Also, the traditional conservatism or prudence concept in financial accounting requires recognition of doubtful income items to be postponed, and recognition of doubtful expenses or losses to be brought forward. Tax laws require certainty and precision, and allow little room for subjectivity in the applications of the matching principle and the prudence concept. Thus, neither income (profit) nor expenditure (loss) can be anticipated. Precautionary and contingency provisions charged against income, such as general provisions for doubtful debts and warranties, are not allowed as deductions for tax purposes until such time as the contingencies become crystallized.

Thus, due to the wherewithal to pay principle (and the consequential emphasis on cash flows) and the desirable feature of certainty and precision, the timing of derivation of income and incurrence of expenditure and losses in tax rules may be different from the timing of recognition of the same items for financial accounting purposes. These timing differences cause some items of income and deduction to appear in financial accounts for one period, but to impact tax liability of another period.

Non-Revenue Raising Functions of Income Tax

The income tax was originally introduced to raise revenue for the government. Since the 1930s, different governments have been using the tax system as a means to regulate economic activities. Accelerated depreciation, for instance, is widely adopted in many countries to encourage investment in plant and machinery which is essential for economic growth. Reliefs also have been granted to specific industries as a result of policy decisions or political pressures. In Australia, for example, there have been support for the film industry, preferential treatment of the gold-mining industry, and concessions given to primary producers.

Each time income tax is used as a policy instrument to achieve economic, social, or political objectives other than revenue raising, special treatment will be accorded to certain types of income or expenditure, and taxable income will be driven further away from accounting profit.[29] Alignment of tax rules with GAAP means that the government would have to use means other than the income tax system to achieve its policy objectives.

Treatment of Capital Gains and Losses

A profit and loss (or income) statement prepared in accordance with GAAP includes all revenues, expenses, gains and losses arising in an accounting period, whether they are of a capital or revenue nature.[30] GAAP only require material items outside the ordinary activities of the business (extraordinary items) to be separately disclosed.[31] The distinction between capital and revenue items is, however, important in tax rules.

In the USA, following the decision in *Eisner v. Macomber* (1919) 252 US 189, realized capital gains are regarded as part of taxable income, but special rates apply to long-term capital gains for a variety of reasons, one being that such gains have been accumulated over a number of years and it would be inequitable to tax them at the marginal rate of the taxpayer in the year of realization under a progressive rate structure.

In the UK, due to the influence of the income concept in trust law, capital gains are not considered to be income and were not subject to tax until 1965 when a capital gains tax was introduced. The statutory provisions relating to the capital gains tax now can be found in the *Taxation of Chargeable Gains Act 1992*. Similarly, in Australia, capital gains generally were not included in taxable income until 1985. In these two countries, the dichotomy of capital and income has resulted in some permanent differences between accounting profit and taxable income, even since capital gains have been included in the tax base. In Australia, for instance, the capital gain realized on the disposal of an asset held for more than one year is computed by deducting the indexed cost base[32] from the disposal proceeds; i.e., only the real gain is included in taxable income. On the other hand, relief for capital expenditures is not comprehensive. No deduction is allowed for amortization of purchased goodwill in Australia. A capital expenditure which does not result in creation of an asset, such as the cost of feasibility study of an abortive venture, does not attract any deduction whatsoever.[33]

Substance over Form and Anti-Avoidance Measures

There is a tendency for financial accounting rules to recognize the importance of looking through the legal form of transactions to their economic reality. However, the principle of substance over form appears to be applied differently for financial accounting purposes and for tax purposes.

To achieve the objective of financial reporting, transactions may need to be recharacterized to reflect their economic substance for financial accounting purposes. Since tax is a contribution enforced by law, naturally the legal form of a transaction is important in determining its impact on the tax liability of the transactors. Also, to achieve certainty the courts in the UK and Australia tend to adopt a legalistic approach to interpret tax legislation. Recharacterization of a transaction may have various unintended and unforeseen consequences and may create uncertainty as to how the related parts of the tax law should apply. Thus, an asset acquired by a lessee under a finance lease is required by GAAP to be capitalized and depreciated (emphasis on economic substance), but tax law in Australia requires the lessee to deduct the rent or lease charges payable under the lease as revenue expenditures (emphasis on legal form).

However, in particular instances where tax avoidance is apparent, tax laws in different countries have adopted the approach of ignoring the form of transactions and regarding only their substance and purpose to protect revenue, either through judicial interpretation or through legislation of anti-avoidance provisions (Millett, 1988). There has been a longstanding doctrine of substance over form adopted by the US Supreme Court to attack tax avoidance.[34] In the early 1980s, the House of Lords in the UK adopted a similar doctrine by developing the principle of fiscal nullity in *WT Ramsay Ltd v IRC* (1981) 11 ATR 752, and *Furniss v Dawson* (1984) 1 All ER 530. In Australia, a general anti-avoidance measure along similar lines (Part IVA of the ITAA) has been operating since 1981. In addition to the general anti-avoidance measures, there are numerous specific provisions designed to ensure administrative effectiveness, or to plug specific loopholes exploited by taxpayers to avoid tax. For instance, entertainment expenses are generally not allowed as a deduction; there also are restrictions on deductions of operating losses and bad debts incurred by a company in Australia.

Thus, tax rules emphasize economic substance in areas quite different from financial accounting rules. Also, there are numerous anti-avoidance measures in tax laws which have the effect of deeming fictitious income to exist and real expenditure or loss to be nothing. These differences are another source of divergence between taxable income and accounting profit.

SUMMARY AND CONCLUSIONS

The different institutional arrangements in continental European countries and Anglo-Saxon countries are summarized in Table 1.

Table 1. Different Institutional Arrangements in Continental European and Anglo-Saxon Countries

Continental European Countries	*Anglo-Saxon Countries*
• Small capital markets: main providers of finance are banks and government	• Huge capital markets: main providers of finance are the general public
• Codified law system: detailed accounting rules are part of codified commercial law; uniform financial reports are prepared for: • credit provision • taxation • economic planning	• Common law system: • Corporations law requires periodic financial reports without setting financial accounting rules • Tax law imposes tax on income without precisely defining income
• Homogeneous users	• Heterogeneous users
• Taxation is an important consideration in setting accounting rules	• Financial reporting rules and tax rules are developed separately
• Small accounting profession	• Strong accounting profession involved in accounting rule-making

Table 2. Divergence of Tax and Financial Accounting Rules in Anglo-Saxon Countries

Taxation	*Financial Reporting*
Objectives	
• Raise revenue	Provide useful information for-
• Manage the economy	• making and
• Achieve social and political goals	• evaluating
	economic decisions
Criteria for Evaluation	
• Equity	• Relevance
• Neutrality or efficiency	• Reliability
• Certainty	• Materiality
• Continuity	• Timeliness
• Convenience	• Comparability
• Economy or cost-effectiveness	• Understandability
Basic Principles	
• Wherewithal to pay	• Realization
• Receipt or control of funds	• Matching
• Payment or definite liability	• Conservatism
• Neither profit nor loss can be anticipated	• Substance over form
• Income capital distinction	

Even though Anglo-Saxon countries share similar institutional arrangements, the relationships of tax and financial accounting rules in these countries vary. At the legislation level, the relationship ranges from an explicit one (as in the USA), to an implicit one (as in the UK), and a complete lack of relationship (as in Australia). In practice, in the USA and the UK where a formal book-tax relationship exists, the judiciary and tax administrators do at times reject financial accounting rules because these rules do not clearly reflect income for tax purposes, or are inconsistent with tax laws. On the other hand, in Australia where a formal book-tax relationship is absent, the judiciary does on some occasions rely on accounting principles if they are considered helpful in the determination of taxable income.

Due to the institutional arrangements in Anglo-Saxon countries, tax and financial accounting rules have been developed by different authorities for different purposes. They are designed to meet different criteria and are based on different principles to reflect their objectives and required standards. Table 2 summarizes the differences of the two sets of rules in Anglo-Saxon countries.

Given the institutional arrangements, a wholesale adoption of financial accounting rules for tax purposes appears to be infeasible and undesirable. First, the alignment of tax with financial accounting rules may or may not result in cost saving simplification of the income tax system. Taxpayers, especially listed companies and their subsidiaries, would reduce their compliance costs when the process of converting accounting profit to taxable income by making complex adjustments is dispensed. However, only a small (albeit important) group of taxpayers is required to prepare financial reports and income tax returns based on two different sets of rules. Savings in compliance costs mainly apply to this group of taxpayers. Adoption of accounting profit in tax assessment also may reduce the costs incurred by tax administrators in verifying the information supplied in tax returns, because public companies must have the fair presentation of their financial statements testified by auditors. However, audit fees would likely increase because the liability exposure of auditors would increase upon an alignment. Thus, administrative costs would only be reduced at the expense of increase in audit costs of the taxpayer.

Second, the revenue collection of the government would be threatened. Taxpayers might manipulate their reported profits to reduce tax liability (earnings management). If so, book-tax alignment may end up with increased legislation and regulations, and hence increased complexity in the tax system.

Third, although adoption of financial accounting rules for tax purposes can eliminate the book-tax income gap, it is doubtful whether such an alignment really could improve the perceived fairness of the tax system and enhance taxpayer compliance. Because different taxpayers face different constraints on earnings management (e.g., due to existing debt covenants), it is possible that a book-tax alignment would produce an unfair result.

Finally, the rule-making bodies of the tax and financial reporting regulatory systems are independent and powerful. Book-tax alignment would reduce this independence and alter the power structure. The government needs a powerful agency to protect the public fisc and its tax policy interests. Thus, it is unlikely that the tax administrators would reduce their control over the tax system and shift power to the corporate regulators and the accounting profession. The government also needs a powerful agency to protect the integrity of the financial reporting system, the capital markets, and the investors. Corporate regulators and the accounting profession would not like to see the tax administrators involved in the accounting standard-setting process, because the objectives and standards of the two systems are different.

Having argued that a complete book-tax alignment is infeasible and undesirable in Anglo-Saxon countries, we do not mean that there is no scope for bringing the two sets of rules closer to each other. Tax authorities (i.e., the legislature, the judiciary, and tax administrators) can selectively adopt some of the accounting principles and standards to provide a tax base which is clear and certain. For instance, the Australian courts have recently shown their willingness to adopt, for instance, the matching principle to spread the discount expense on bills of exchange over the life of the bills, and similar accruals basis is likely to be adopted in the emerging regime of taxation of financial arrangements (Australian Taxation Office, 1993). The realization basis (which can be traced to the wherewithal to pay principle) is likely to be abandoned in the new taxation regime for financial arrangements because the timing of realization of a financial instrument can be easily manipulated. Thus, it is not that financial accounting rules should not be adopted for taxation purposes; it is only an indiscriminate adoption of all financial accounting rules for taxation purposes that will serve neither the needs of a good tax system nor those of a good financial reporting system.

Acknowledgments: The authors have benefited from the comments of the Editor, Andrew Bailey, and two anonymous reviewers.

NOTES

1. GAAP refers to the conventions, rules and procedures that define accepted accounting practices at a particular time and provide a standard by which auditors form their professional opinions about financial statments (Cooper & Ijiri, 1983)). That is, financial accounting rules. The term GAAP was first used in the USA and has gradually been adopted by other Anglo Saxon countries.
2. Often this arises because of the tax incentives and accelerated write-offs offered in the tax legislation.
3. US *Internal Revenue Code 1986*, Sections 55-59.
4. Tax accounting concerns the timing of income and deductions. Depending on the context, tax accounting also may be used in a broader sense to refer to the rules and procedures used to determine taxable income.
5. *Insilco Corporation* 73 TC 589.
6. *William Powell Co.*, 542 F.Supp 841.
7. *Artnell Company* (CA-7, 1968) 400 F.2d 981.
8. *Cincinnati, New Orleans & Texas Pacific Railroad* (1970) 424 F.2d 536.
9. *American Automobile Association* (1961) 376 US 687.
10. *Automobile Club of Michigan v. the United States* (1957) 353 US 180.
11. Under the all events test, a taxpayer is entitled to deduct an accrued expense when all of the events that determine the liability have occurred and the amount of the liability can be determined with reasonable accuracy. Under this rule certain provisions (e.g. for bad debts and for warranties) are not deductible.
12. Income tax was first introduced in the UK in 1799 for nearly two decades in order to finance the Napoleonic Wars. It was re-introduced in 1842 and has since become a regular tax in the UK (Sabine, 1966).
13. The adoption of Sixteenth Amendment to the US Constitution on 25 February 1913 made possible a tax on all income without apportionment among the States according to population.
14. In this case, despite expert witness giving evidence that the LIFO method was a generally acceptable method of inventory valuation, the Privy Council decided that for tax purposes, LIFO was not appropriate in the circumstances of the taxpayer.
15. In this case, a bank purchased at a discount bills of exchange which would mature in a number of years. In its accounts for each year, the bank credited a fractional part of the profit which the

bank expected to make assuming the bills were held to maturity, but returned the profit as income for tax purposes only upon maturity of the bills. The Revenue contended that the accounting treatment adopted by the bank also should be applied for tax purposes. The House of Lords decided in favor of the bank on the principle of tax law that profits cannot be taxed until it is realized, i.e., until the bills matured or sold before maturity.

16. In this case, the Inland Revenue adopted the accounting treatment in SSAP 21, the accounting standard on leasing, which was accepted by the Court. Instead of being allowed deduction of lease payments, the lessee was allowed deduction of the financing expense based on the total lease payments and an accountant's estimation of depreciation. The decision was a departure from the traditional transaction-based tax rules. See discussions in Freedman (1993) and Whittington (1995).
17. In this case, the High Court decided that an airline company could deduct the anticipated cost of major jet engine overhauls on an accruals basis over a period of three to four years before the next overhaul. The court accepted that accounts prepared according to GAAP were adequate for tax purposes. This decision is at odds with previous decisions that no expenditure and losses may be anticipated for tax purposes.
18. See the speech of Andrew Smith M.P., Shadow Chief Secretary to the Treasury, quoted in Freedman (1995, p. 444).
19. As the costs incurred to purchase trading stock are allowable deductions, if no adjustment for the change in the levels of trading stock were required by s.28, taxpayers would be able to reduce their taxable income simply by building up trading stock.
20. In general, expenditure and losses of a capital nature are not allowed for deduction from income. Depreciation deductions are an exception to this general rule.
21. Examples are *New Zealand Flax Investments v. FCT* (1938) 61 CLR 179, *Commissioner of Taxes (SA) v. The Executor Trustee and Agency Co of South Australia Ltd* (1938) 63 CLR 108 (the Cardens case), *Henderson v. FCT* (1970) 70 ATC 4016, and *Arthur Murray (NSW) Pty Ltd v. FCT* (1965) 114 CLR 314.
22. In trading stock cases such as *FCT v. Sutton Motors (Chullora) Wholesale Pty Ltd* (1984-85) 157 CLR 277 and *Phillip Morris Ltd v. FCT* (1979) 79 ATC 4352, accounting evidence has been adduced and accepted.
23. For instance, in *Citibank Ltd & Ors v. FCT* (1992) 92 ATC 4822, the Federal Court at first held that finance leases were in reality a financing arrangement for acquisition of assets. Nothing in the legislation rendered the accounting treatment prescribed in accounting standards inappropriate for tax purposes, so only the element determined on the actuarial method stated in accounting standards was income of the lessor. The Full Federal Court (*FCT v. Citibank Ltd & Ors* (1993) 93 ATC 4691), however, reversed this decision and held that as the ITAA required the rental receipts to be treated as assessable income, there was no room for the accounting treatment to be applicable. The accounting treatment was appropriate for financial reporting purposes under corporate law, but not for determination of income for tax purposes.
24. See, for example, *New Zealand Flax Investments v. FCT* (1938) 61 CLR 179 and *FCT v. James Flood Pty Ltd* (1953) 88 CLR 492.
25. This happened in *New Zealand Flax Investments v. FCT* (1938) 61 CLR 179, and more recently in *FCT v. Australian Guarantee Corp Ltd* (1984) 84 ATC 4642, *Coles Myer Finance Ltd v. FCT* (1993) 93 ATC 4214, and *FCT v. Energy Resources of Australia Ltd* (1996) 33 ATR 52.
26. After the inquiry, the Government started the Tax Law Improvement Project (TLIP) to rewrite the tax act in plain English. The objectives are to reduce compliance costs and to improve compliance. However, the project team would not look into any major change to tax policy (TLIP 1994).
27. The wealth redistribution system includes the tax system which transfers wealth from the private sector to the public sector, and various government programs, such as social security, edu-

cation and health, which transfer the wealth back to the private sector and result in a redistribution.

28. This trend is evident by the definitions of accounting elements in the conceptual framework for financial reporting developed in the three Anglo-Saxon countries. See, for example, Australian Statement of Accounting Concepts SAC 4 - Definition and Recognition of the Elements of Financial Statements. As a result of this shift in focus, the matching principle and the conservatism principle also are de-emphasized.
29. In the USA, under the exception principle, GAAP can vary to accommodate industry practice. Thus, GAAP and income tax treatments are not uniform across all industries. This accommodation for industry differences should lead to greater divergence between tax and financial accounting, but in some instances might lead to some convergence.
30. In Australia, the relevant accounting standards are AAS1 - Profit and Loss or Other Operating Statements, and AASB 1018 - Profit and Loss Accounts.
31. The US GAAP also require capital gains and losses to be separately disclosed.
32. Indexed cost base is the cost of an asset adjusted for inflation using the quarterly Consumer Price Index.
33. Cooper (1991) presents a detailed discussion of this "blackhole" in tax laws.
34. For example, *Gregory v. Helvering* (1935) 293 US 465, and *US v. Phellis* (1921) 257 US 156.

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The International Journal of Accounting

Managing Discretionary Accruals in Response to Reductions in Corporate Tax Rates in Canada, Malaysia and Singapore

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Key Words: Managing accruals; Tax rates; Canada; Malaysia; Singapore; Culture

Abstract: *The accounting literature provides much evidence of incentives to manage earnings (Healy 1985, Jones 1991, Moses 1987). Evidence on using discretionary current accruals as an earnings management tool to benefit from income tax rate changes in the USA is given in Guenther (1994). The present study provides empirical evidence on the management of discretionary current accruals by nonmanufacturing corporations in Canada, Malaysia and Singapore in response to changes in the statutory corporate income tax rates in these countries. It also tests competing hypotheses relating to managing discretionary current accruals, specifically the incentives provided by the positive accounting variables of political costs and debt covenants as proxied by firm size and firm leverage, respectively. Our analysis provides evidence on managing discretionary current accruals by companies in Canada and Singapore similar to that found by Guenther (1994) for the USA. The weaker Malaysian results can be attributed to cultural factors.*

In the latter half of the 1980s, a number of countries modified their federal income tax legislation to reduce the rate of income tax levied on corporate entities. Probably the most widely known of these changes is the US Tax Reform Act of 1986. The objective of this action by national governments was presumably to lower the tax burden on companies in their countries and so provide an incentive for them to expand their activity. The reduction in tax rates at a specific point in time not only resulted in lower income taxes payable on an ongoing basis but also created a window of opportunity for corporations to reap a short term benefit by managing revenues and expenses so as to defer the payment of income taxes for one or more years. The latter benefit required a short term strategy where management took actions to defer revenues from a high tax rate year to a low tax rate year and to accelerate expenses to a high tax rate year from a low tax rate year.

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The International Journal of Accounting, Vol. 33, No. 4, pp. 455-467 **ISSN: 0020-7063.**

In the US, the Tax Reform Act (TRA) of 1986 reduced the federal corporate income tax rate (CITR) from 46% to 34% effective July 1, 1987. Guenther (1994) found empirical evidence that US companies managed current accruals (i.e. deferred revenues and accelerated expenses in the year preceding the tax rate change) to increase tax savings. In this paper, we extend upon Guenther's work to see whether changes in CITRs in Canada, Malaysia and Singapore resulted in similar behaviour by companies in these countries.

SUMMARY OF TAX RATE CHANGES

As stated above, the US government approved legislation which resulted in a reduction of the CITR from 46% to 34% effective July 1, 1987. In February 1986, the Canadian government announced a series of changes to the Income Tax Act to level the playing field for Canadian companies as compared to US companies which are their most direct competitors. The Canadian changes included, among other things, corporate tax rate reductions, reductions in capital cost allowance (CCA) deductions, and phasing out of most investment tax credits. The manufacturers sales tax was also phased out a few years later and replaced with the goods and services tax (GST). A further complication was the difference in effect for manufacturing and nonmanufacturing companies because of the manufacturing and processing tax credit. For nonmanufacturing firms, the statutory Canadian CITR was reduced from 36% to 35% as of July 1, 1987, then to 28% effective July 1, 1988. Canadian manufacturing companies experienced a less significant total CITR reduction from 28% to 23% and this was phased in over a number of years. Specifically, the tax rate for manufacturing companies was reduced from 28% to 26% effective July 1, 1988, 25% effective July 1, 1989, 24% effective July 1, 1990, and 23% effective July 1, 1991. Provincial corporate income tax rates did not change significantly during the study period.

The Malaysian government reduced its CITR from 40% in 1987 to 35% for the years 1988-1991, and then to 34% for 1992, 32% for 1993 and 30% thereafter. The Singapore government enacted an across the board reduction of its CITR from 40% to 33%, with the new rate taking effect for the 1986 tax year.

Table 1 summarizes the CITRs in effect for the period 1985 through 1992 in the three countries studied here as well as in the USA.

Table 1. Statutory Corporate Income Tax Rates

Year	*85*	*86*	*87*	*88*	*89*	*90*	*91*	*92*
Canada[1,3]	36	36	35	28	28	28	28	28
Malaysia[2]	40	40	40	35	35	35	35	34
Singapore[2]	40	33	33	33	33	33	33	33
U.S.A.[1]	46	46	34	34	34	34	34	34

Notes: 1. Changes at July 1
2. Changes at January 1
3. Canadian nonmanufacturing firms only

Table 2. Some Features of the Tax Systems for Canada, Malaysia and Singapore

Item	*Canada*	*Malaysia*	*Singapore*
Taxable Income	Accrual Accounting adjusted for permanent and timing differences	Accrual Accounting adjusted for permanent and timing differences	Accrual Accounting adjusted for permanent and timing differences
Inventory Valuation	Lower of Cost or market (LIFO is not allowed)	Lower of Cost or net realizable value (LIFO is not allowed)	No special rules as long as basis is consistent from year to year (LIFO is not allowed)
Intercorporate Dividends	Tax exempt for recipient	Tax exempt for recipient	Taxable for recipient
Capital Gains	Only 75% taxable	Not taxable (except for land and buildings)	Not Taxable
Foreign Income	Taxable + credit towards foreign paid taxes	Taxable + credit towards foreign paid taxes	Taxable + credit towards foreign paid taxes
Depreciation and Depletion	Based on CCA rates depending on the asset's class	Based on depreciation rates depending on the asset's class	Based on depreciation rates depending on the asset's class
Depreciation Recapture	Taxable as Ordinary Income	Taxable as Ordinary Income	Taxable as Ordinary Income
Operating Loss	Carried 3 years back and 7 years forward	Carried forward for indefinite time	Carried forward for indefinite time
Auto Leases	Restricted	Restricted	Restricted
Investment Tax Incentives	Most are phased out. Available for some R&D, energy saving expenses, and for newly incorporated businesses	Available for capital expenditures, expansions, venture capital, operational headquarters, unit trusts, R&D, training, factory location, purchases of components from small companies, employment equity, and using Malaysian ships	Available investments in pioneer industries, productive equipment, R&D, development contributions and interest, exports, capital expenditures, expansions, regional warehousing, and in new technology and venture capital

CORPORATE TAXES IN CANADA, MALAYSIA AND SINGAPORE

Table 2 provides a comparison of the significant tax provisions of corporate income taxes in Canada, Malaysia and Singapore and shows that the major features of the three systems are similar. (Source of Malaysia and Singapore information: Price Waterhouse, 1990a)

DEVELOPMENT OF FINANCIAL REPORTING STANDARDS

Canadian GAAP promulgated by the Canadian Institute of Chartered Accountants (CICA) differ in some respects from International Accounting Standards (IAS) which are followed reasonably closely in Malaysia and Singapore. While revenue and expense recognition rules are generally similar, there are some differences in accounting for income taxes. Canadian income tax accounting for timing differences uses the deferral method and comprehensive tax allocation. Malaysia and Singapore reporting requirements follow IAS No. 12 which allows use of either the deferral or liability method with partial tax allocation which limits the recognition of a tax liability (asset) to timing differences expected to reverse within a reasonable time (normally within 3-5 years).

While Canadian GAAP have been primarily influenced by U.S. GAAP for the last 30-40 years, Malaysian and Singaporian GAAP generally follow IASs which tend to provide more options and flexibility since they represent a compromise between U.S. and British GAAP. The Malaysian Association of Certified Public Accountants (MACPA) and the Institute of Certified Public Accountants of Singapore (ICPAS) are responsible for developing GAAP in their respective jurisdictions. Since becoming members of the International Accounting Standards Committee (IASC) in the mid 1970s, both the MACPA and ICPAS have adopted most IASs. Historically, most former colonies of Britain adopted the British tax and accounting systems and Malaysia and Singapore were not exceptions. Under the British system, accounting and tax rules were originally closely related. D. Jensen and M. Crumley (1997) conclude that with the exception of depreciation expense, the accounting in Australia, Hong Kong and Singapore emulate the tax code. This is also true for Malaysia and Canada.

DEVELOPMENT OF HYPOTHESES

Approach to Income Management

In order to benefit from the deferral of income taxes in response to the reduction in CITR, it is necessary for a company to take actions which affect its taxable income. Given that we are unable to determine taxable income from the information in the company financial statements, we rely upon the fact that taxable income is related to accounting income for the countries studied as follows:

$$\text{Taxable Income} = \text{Accounting Income} \pm \text{Permanent Differences} \pm \text{Timing Differences}$$

where accounting income is reported in the financial statements, and permanent and timing differences result from specifications in the appropriate income tax legislation. This relationship shows that accruals affecting accounting income which are not adjusted for by permanent or timing differences will flow through to affect taxable income. Thus the timing of recognition of some revenues and expenses provides a mechanism to affect the timing, and consequently the present value, of taxes payable.

Accounting Accruals

Total accounting accruals measure the difference between operating cash flows (operating income on a cash basis) and reported accounting income before extraordinary items, i.e. they capture all noncash items excluding extraordinary gains and losses. The effects of major noncurrent accounting accruals (primarily depreciation but also certain amortization and depletion charges) are fixed by income tax legislation, i.e. they are typically replaced by allowed deductions for tax purposes in going from accounting income to taxable income. This is not true for most current accruals. Therefore, the accounting mechanism considered in this study for affecting the timing of income tax payments is not total accounting accruals but only current accruals (CACC). The exclusion of noncurrent accruals, mainly depreciation charges, from consideration in this study should mitigate the effect of using accounting information as a proxy for income tax return information and differences in deferred tax accounting in the three countries. The ability to adjust the *timing* of recognizing certain revenues and expenses enables firms to manage their earnings subject to maintaining an acceptable level of normal operations. Therefore, current accruals are segregated into two components, nondiscretionary accruals, which are determined by the level of normal operations, and discretionary accruals. Managing current accruals as described above applies only to the discretionary current accruals (DCACC) since it results from the accounting and/or economic choices that cause a change from the normal or expected level which reflects normal variation of operating activities. Researchers (DeAngelo 1986; Healy 1985; Jones 1991) have developed several models to separate nondiscretionary from discretionary accruals.

The focus on DCACCs justifies the use of financial accounting income as a proxy for taxable income since the tax laws in the three countries allow use of financial accounting methods for inventory (with the exception of LIFO), receivables, current liabilities, and contingent liabilities in income tax reporting as shown in Table 2. More specifically, the tax systems in the three countries accept an allowance for expected losses on accounts receivable and actual write offs are not a prerequisite to claiming such a tax deduction. In addition, Canadian tax planning literature recommends the use of financial accounting accruals to minimize the total tax bill (Price Waterhouse, 1997, pp. 32-44; 75-84). For example, to reduce income taxes, a company should review its method of accounting with regard to the timing of revenue recognition. The Canadian Federal Court of Appeal held that a company has the right to change its revenue recognition method (i.e., switch from billed to earned revenue method) for tax purposes. In the mid-1980s, two companies which were the subjects of the Appeal's Court ruling switched their revenue recognition methods to minimize the tax bill (Price Waterhouse, 1997, p. 33). In addition, corporations can defer taxes by claiming reserves to defer recognition of certain types of unearned income for goods not delivered and services not rendered such as the case with returnable containers. Corporations can charge favorable interest rates and transfer prices among the affiliated group of companies. Consignment sales are used to defer revenue recognition on sale of goods to related companies. Companies are advised to satisfy the conditions on contingent liabilities so they become tax deductible expenses and to review receivables to see if the company may claim a larger deduction for bad debts (Price Waterhouse, 1997, pp. 34, 35, 39). Given that the tax laws in the three countries greatly rely on financial reporting of current accruals, it is reasonable to assume there is no incentive for companies to incur the extra costs of maintaining two sets of records for tax and financial accounting. There may be some differences as indicated in Table 2. For example, the exemption status of intercompany dividends in Canada and Malaysia will result in permanent differences between taxable income and financial accounting income. Tax credits affecting the taxable amounts of foreign income will also lead to permanent differences. However, these would not affect the DCACCs upon which we are basing our analysis.

Basic Hypotheses

We assume that managers pursue a wealth maximization strategy. Therefore, we expect the management of companies in Canada, Malaysia and Singapore to accelerate expenses to be recognized in the fiscal year preceding the CITR reduction and deducted in the determination of taxable income in the year with a higher tax rate. Similarly, we expect management to defer revenues to be recognized in the fiscal year following the CITR reduction and included in the determination of taxable income in the year with a lower tax rate. This leads to the expectation that firms will have negative DCACCs in the fiscal year preceding the CITR reduction and positive DCACCs in the fiscal year following the tax rate reduction. Thus, for Canadian firms, we expect negative DCACCs in 1987, and positive DCACCs in 1988, with this being most noticeable for Canadian nonmanufacturing firms because of the larger change in CITR. We focus on the largest single drop in CITR for companies in Malaysia, i.e. the tax rate decrease of 5% in 1988. Thus, for Malaysian firms, we expect negative DCACCs in 1987 and positive DCACCs in 1988. For Singapore companies, we expect negative DCACCs in 1985 and positive DCACCs in 1986. Accordingly, the following two hypotheses are formalized:

H_1: Firms will report negative DCACCs in the fiscal year preceding the CITR decrease; 1987 for Malaysia and Canada, 1985 for Singapore.

H_2: Firms will report positive DCACCs in the fiscal year following the CITR decrease; 1988 for Malaysia and Canada, 1986 for Singapore.

Competing Hypotheses

In a situation where there is a motivation to adjust accounting income to reduce the present value of income taxes to be paid, the actual decision taken depends upon the trade-off of tax savings on the one hand and non-tax costs on the other (Scholes, Wilson and Wolfson 1992). The non-tax costs of managing accounting accruals can be addressed in the positive accounting theory framework which identifies three general factors affecting firm management's motivation to engage in such behaviour, namely, political costs, debt covenants, and management bonus plans.

The general expectation is that the management of larger firms will be inclined to engage in income decreasing strategies to reduce political costs, whereas the management of smaller firms may be more interested in income increasing strategies (Watts and Zimmerman, 1978). As a result, a third hypothesis is formulated as follows:

H_3: DCACCs are negatively associated with firm size.

Contracting theory suggests that the management of a highly levered firm (i.e., with a high debt to equity ratio) is more likely to follow an income increasing strategy (Watts and Zimmerman, 1986). Accordingly, the management of a highly levered firm will be more likely to report a positive DCACC. Thus, a fourth hypothesis is formulated as follows:

H_4: DCACCs are positively associated with firm leverage.

Management compensation plans provide incentives to manipulate income (Healy, 1985). However, because specific details of compensation plans are not generally available for Canadian companies, it is not possible to incorporate this variable in our study (Magnan, St. Onge and Thorne, 1995).

Cultural Factors

It is reasonable to expect that cultural factors will impact the above economic-based expectations. As pointed out by (Gray, 1988) and (Perera, 1989), accounting systems and financial reporting in practice are influenced by cultural factors such as statutory control vs. professionalism and uniformity vs. flexibility. Choi and Mueller (1992, p. 77) argue that actual accounting practice may vary from official GAAP to differing degrees in different countries because of cultural factors. Thus, our *a priori* expectations as outlined above may be influenced by the degree of enforcement, professionalism, flexibility and uniformity of the accounting practice in each jurisdiction. Unfortunately, we have no specific firm-related measures to modify our basic hypotheses. Rather, we must use the work of authors cited above to provide guidance. Relying on Gray's four-dimensional classification of international accounting systems (1998), we expect our basic hypotheses to hold for Canada which is classified among the "Anglo-Saxon" countries which are ranked highest on professionalism and flexibility. On the other hand, it is less likely that actual accounting practices in Malaysia will be used in managing earnings to benefit from CITR reductions given that the country is classified among the "Less-developed Asian" countries with high ranks on statutory controls and uniformity. In addition, the tax administration in Malaysia is armed with a strong anti-avoidance provision which empowers the Director-General to make adjustments to taxable income and assets' valuation whenever there are reasons to believe that a business transaction has altered the incidence of tax (Price Waterhouse, 1990b, p. 116). The stronger anti-avoidance rule in Malaysia is an example of such a statutory control. Singapore is classified among the "Former Asian-Colonial" countries which are characterized by low statutory control and flexibility and so we would expect earnings management to be between that for Canada and Malaysia.

MODELS, MEASURES, SAMPLES AND RESULTS

Models and Measures.

We calculate DCACC as the difference between end-of-year actual current accruals (ACACC) and predicted discretionary accruals (PCACC) which estimate CACC reflecting the normal operating level of a sample firm. We use a standard definition for ACACC [Guenther 1994] and three models for estimating PCACC. For company *i* in year *t*, $PCACC_{avgit}$ is estimated as the average of the ACACC of the preceding three years; $PCACC_{git}$ is estimated using a growth model based on the ACACC of the preceding three years; and $PCACC_{rwit}$ is estimated using a random walk model. The details of the estimation are as follows:

$ACACC_{it}$ = [(Δ Current $Assets_{it}$ - Δ $Cash_{it}$) - (Δ Current $Liabilities_{it}$ -Δ Current Maturities of Long term $Debt_{it}$ - Δ Income Taxes $Payable_{it}$)] / Total $Assets_{it-1}$
$PCACC_{avgit}$ = $(ACACC_{it-1} + ACACC_{it-2} + ACACC_{it-3})/3$
$PCACC_{git}$ = $ACACC_{it-1}$ * (1 + Average Growth Rate for $ACACC_{it\text{-}4 \text{ to } t\text{-}2}$)
$PCACC_{rwit}$ = $ACACC_{it-1}$
$DCACC_{avgit}$ = $ACACC_{it} - PCACC_{avgit}$
$DCACC_{git}$ = $ACACC_{it}$ - $PCACC_{git}$
$DCACC_{rwit}$ = $ACACC_{it}$ - $PCACC_{rwit}$

For each country-year studied, the data was fit to three regression models to test the hypotheses as follows:

$$DCACC_{avgit} = a + b_1\, SIZE_{it} + b_2\, DE_{it} + x_{it} \quad (1)$$

$$DCACC_{git} = a + b_1\, SIZE_{it} + b_2\, DE_{it} + x_{it} \quad (2)$$

$$DCACC_{rwit} = a + b_1\, SIZE_{it} + b_2\, DE_{it} + x_{it} \quad (3)$$

The independent variables in these regressions are:

$SIZE_{it}$ - a dummy variable which measures the size of firm *i* at the end of year *t*. SIZE is coded 1 for the largest 10 per cent of firms and 0 otherwise, where firm size is measured as the natural logarithm of net sales
DE_{it} - the ratio of the book value of long term debt to stockholders' equity for firm *i* at the end of year *t*, and
x_{it} - an error term.

Sample

This study examines the management of current accruals by nonmanufacturing companies in Canada. Malaysia and Singapore in the years preceding and following a change in the statutory CITRs. The sample of Canadian companies was taken from the Financial Post database (FPDB). The sample of companies in Malaysia and Singapore was taken from the Company Account database (CODB) of the School of Accountancy at Nanyang Technological University in Singapore.

To be included in the sample, a firm has to meet several screening criteria which are designed to minimize measurement errors (Young 1996; Dechow, Sloan and Sweeney 1995). The first two criteria for selection are straightforward, i.e., a firm must report positive operating cash flows and have a positive long term debt to equity ratio. To eliminate firms that have no motivation for managing their DCACCs. we exclude firms that report a net operating loss carryforward for tax purposes. We also exclude financially distressed companies and companies with extreme DCACC values in the study period (1986-1988 for Canada and Malaysia; 1984-1986 for Singapore). Finally, we selected only firms with a fiscal year-end between October and December 31. This last criterion is added to maintain a homogeneous sample, i.e., firms with approximately the same effect of the CITR reduction, because the income tax rate change is effective July 1 each year in Canada and is a weighted average for firms with a year end other than June 30.

We excluded Canadian manufacturing firms from this study for two reasons. First, the much smaller magnitude of the tax rate changes in each year given the gradual phase in of the income tax rate reduction for manufacturing companies suggests less motivation for management of CACC. Second, the benefits of the tax rate reductions granted to the manufacturing sector are less clear because of concurrent tax changes including: CCA deductions for machinery and equipment were drastically reduced; most investment tax credits for machinery and equipment were phased out except for some qualified energy-saving equipment given that a firm received specific government approval; and inventory write-offs were no longer allowed under the new tax rules. Thus, it is not clear whether Canadian manufacturers benefited significantly from CITR changes. We restricted the Malaysia and Singapore samples to nonmanufacturing companies to provide a common basis for comparisons.

Based on the selection criteria, the number of companies in the sample totalled 102 for Canada, 149 for Malaysia and 126 for Singapore over the three years studied. Table 3 provides information about the mean (median) accounting accruals for the three countries over the study periods.

Table 3. Descriptive Statistics—Mean (Median) of Accruals

	Year				
Country	*84*	*85*	*86*	*87*	*88*
Canada					
$DCACC_{avgit}$			0.001	0.016	-0.013
			(0.007)	(0.014)	(-0.011)
$DCACC_{git}$			-0.007	-0.006	0.161
			(0.004)	(-0.001)	(-0.003)
$DCACC_{rwit}$			-0.010	0.015	0.022
			(-0.018)	(0.002)	(0.003)
Malaysia					
$DCACC_{avgit}$			-0.125	-0.219	0.873
			(-0.056)	(-0.092)	(0.183)
$DCACC_{git}$			-6.973	-3.374	0.765
			(-0.040)	(-0.459)	(0.178)
$DCACC_{rwit}$			-0.416	-0.642	0.661
			(-0.002)	(-0.219)	(0.186)
Singapore					
$DCACC_{avgit}$	0.112	-0.109	0.292		
	(0.096)	(-0.021)	(0.097)		
$DCACC_{git}$	0.036	-1.301	0.663		
	(0.027)	(-0.072)	(0.021)		
$DCACC_{rwit}$	0.018	-0.057	0.072		
	(0.032)	(-0.003)	(0.022)		

Table 4. Regression Results: 3-Year Average Model (t-values in parentheses)
Model: $DCACC_{avgit} = a + b_1\ SIZE_{it} + b_2\ DE_{it} + x_{it}$

Country & Year	*No. of cases*	*a*	$b_1\ SIZE_{it}$	$b_2\ DE_{it}$	R^2
Canada					
86	40	-0.029 (-0.35)	0.045 (1.15)	0.018 (1.60)	10%
87	31	0.005 (0.24)	0.005 (0.12)	0.011 (0.91)	3%
88	31	0.013 (0.65)	0.041 (0.47)	-0.027 (-2.26)**	11%
Malaysia					
86	56	-0.144 (-1.00)	0.128 (0.53)	-0.056 (-0.42)	1%
87	50	-0.144 (-1.00)	-0.480 (2.90)***	-0.131 (1.34)*	16%
88	43	0.455 (1.43)*	1.036 (2.20)**	0.017 (0.09)	11%
Singapore					
84	58	0.133 (3.45)***	-0.077 (-0.93)	-0.155 (-1.57)*	8%
85	41	-0.068 (-1.03)	-0.189 (-1.23)	-0.020 (-0.14)	5%
86	33	0.176 (2.95)***	-0.126 (-1.06)	-0.016 (-0.09)	4%

Notes: *, **, ***t-value is significant at the 10%, 5%, 1% levels, respectively.

Table 5. Regression Results: 3-Year Growth Model (t-values in parentheses)
Model: $DCACC_{git} = a + b_1\ SIZE_{it} + b_2\ DE_{it} + x_{it}$

Country & Year	*No. of cases*	*a*	$b_1\ SIZE_{it}$	$b_2\ DE_{it}$	R^2
Canada					
86	40	-0.016 (-0.33)	0.027 (0.30)	0.018 (0.16)	1%
87	31	-0.093 (-2.54)***	0.032 (0.36)	0.011 (3.58)***	31%
88	31	0.239 (1.96)**	-0.244 (-0.46)	-0.069 (-0.94)	3%
Malaysia					
86	54	-7.443 (-1.47)*	0.894 (0.11)	0.529 (0.12)	1%
87	40	-4.096 (-1.67)*	1.556 (0.44)	0.336 (0.11)	1%
88	41	0.256 (0.78)*	1.151 (2.20)**	0.066 (0.35)	13%
Singapore					
84	58	0.063 (1.37)*	-0.058 (-0.59)	-0.033 (-0.06)	1%
85	41	-1.623 (-1.32)*	1.147 (0.40)	0.542 (0.22)	1%
86	33	0.812 (2.21)**	-0.762 (-1.04)	-0.765 (-0.73)	5%

Notes: *, **, ***t-value is significant at the 10%, 5%, 1% levels, respectively.

RESULTS

We fitted the (1) 3-year average; (2) 3-year growth; and (3) random walk models separately for each country for each year of the study periods, which were 1986-1988 for Canada and Malaysia, and 1984-1986 for Singapore. Table 4 presents the results for the 3-year average prediction model. The **a** coefficients for Canada are not significant for any year; the **a** coefficient for Malaysia is significant at the 10% level for 1988; and the a coefficient for Singapore is significant at the 1% level in 1986 but has an unexpected positive sign. The coefficient $\mathbf{b_1}$ is not significant for Canada or Singapore in any year, and the values for Malaysia are significant but inconsistent in sign. The results for the coefficient $\mathbf{b_2}$ are not generally significant for any country or year. Overall, the results for the 3-year average prediction model are not encouraging.

Table 6. Regression Results: The Random Model (t-values in parentheses)
Model: $DCACC_{git} = a + b_1\, SIZE_{it} + b_2\, DE_{it} + x_{it}$

Country & Year	*No. of cases*	*a*	$b_1\, SIZE_{it}$	$b_2\, DE_{it}$	R^2
Canada					
86	40	-0.030 (-1.28)	0.013 (0.56)	0.025 (1.03)	4%
87	31	-0.024 (-1.45)*	0.026 (0.65)	0.037 (3.40)***	29%
88	31	0.057 (1.38)*	-0.066 (-0.37)	-0.032 (-1.30)	6%
Malaysia					
86	56	-0.778 (-1.81)**	1.025 (1.41)*	0.148 (0.37)	4%
87	50	-0.251 (-1.02)	-0.875 (-2.31)**	-0.215 (-0.96)	11%
88	43	0.296 (1.08)	0.905 (2.23)**	0.015 (0.09)	11%
Singapore					
84	58	0.030 (1.13)	-0.075 (-1.33)*	0.013 (0.19)	3%
85	41	-0.072 (-2.16)**	0.065 (0.84)	0.011 (0.16)	2%
86	33	0.115 (4.25)***	-0.111 (-2.06)**	-0.088 (-1.14)	16%

Notes: *, **, ***t-value is significant at the 10%, 5%, 1% levels, respectively.

Table 5 presents the results for the 3-year growth model. The **a** coefficients for Canadian and Singapore companies are significant and negative in the year preceding the CITR change, and significant and positive in the year following the CITR change. These results are consistent with both $\mathbf{H_1}$ and $\mathbf{H_2}$ and lead to the conclusion that the DCACCs have been managed. Table 5 shows that for Malaysian companies the **a** coefficient is significant and negative in 1987 but not significant, although positive, in 1988; these results are consistent with $\mathbf{H_1}$ but not with $\mathbf{H_2}$. The coefficients $\mathbf{b_1}$ and $\mathbf{b_2}$ are insignificant in the majority of cases and so provide no support for hypotheses $\mathbf{H_3}$ or $\mathbf{H_4}$.

Table 6 presents the results for the random-walk model. The **a** coefficients for Canadian and Singapore companies are again significant and negative in the year preceding the CITR change, and significant and positive in the year following the CITR change while those for Malaysian companies have the correct sign but are not significant. These results provide support for hypotheses $\mathbf{H_1}$ and $\mathbf{H_2}$ as seen for the 3-year growth model. Again, the coefficients $\mathbf{b_1}$ and $\mathbf{b_2}$ are insignificant in the majority of cases and so provide no clear-cut support for hypotheses $\mathbf{H_3}$ or $\mathbf{H_4}$.

CONCLUSIONS

The empirical results reported in this study support the primary hypotheses of earnings management in response to changes of the CITR affecting nonmanufacturing companies in Canada and Singapore and, to a lesser extent, companies in Malaysia. The results support the prediction that management of companies in the sample accelerated expenses in the year prior to the change in CITR and deferred revenues in the year after the change in CITR to benefit from the CITR changes. These results are very similar to the empirical evidence reported in a previous US study (Guenther 1994). There appears to be no significant and consistent effect of size and leverage derived from the positive accounting arguments relating to political costs and debt covenants.

The comparatively stronger support of earnings management to take advantage of CITR changes for North American countries (i.e., Canada and the US) may result from North

American accounting systems and practices being ranked among the highest on flexibility and professionalism (Radebaugh and Gray, 1993, p. 75), both of which are required to manage earnings. The greater flexibility and higher degree of autonomy of North American accounting may allow more exercise of professional judgement to defend management actions to take advantage of CITR changes. The similar but weaker Singapore results may be explained by the fact that, while these accounting systems are ranked lower on flexibility, accounting in former colonial countries in Asia such as Hong Kong and Singapore (Radebaugh and Gray, 1993, p. 75) may still have sufficient flexibility that management actions in response to CITR changes are allowed.

The weaker results for the Malaysian companies may result from several factors. The phase-in of changes to Malaysian CITR offers a company the opportunity to trade off immediate and deferred action to benefit from the CITR changes which may lead to a lower initial reaction. In addition, cultural factors may also contribute here to our empirical observations. Although Malaysian accounting is based on the British model, it is ranked relatively high on the authority and enforcement dimensions leading to more statutory control and uniformity in the reporting and disclosure of financial information (i.e., a higher degree of authority and enforcement is built into the accounting system) (Radebaugh and Gray, 1993, p. 75). The stronger anti-avoidance rule is an example of such a higher degree of authority and may partially explain the weak results for Malaysia. In such a situation, there may be less opportunity to support choice of accruals to manage earnings so as to benefit from CITR changes.

As usual in such studies, there are various limitations to the study presented here. The sample size is smaller than one would prefer but is limited by the databases used for sample selection. A larger sample might strengthen the evidence for the primary hypotheses of earnings management. The lack of significance for the political cost hypothesis is probably partly attributable to the small sample size also. The lack of significance for the debt covenant hypothesis likely relates to the sample selection criteria, i.e. the desire to increase sample homogeneity led to elimination of companies with loss carryforwards and financially distressed companies so that there may be a relatively small impact of leverage in the sample. In addition, our results may be weakened by the fact that we relied on financial accounting income and current accruals as proxies for the determination of income tax effects. Finally, it is quite possible that the magnitude of adjustment from DCACCs is relatively small and so is less accurately observed in small samples as used here.

Acknowledgments: The data for companies in Singapore and Malaysia was extracted from the Company Account Data Base of the School of Accountancy and Business at Nanyang Technological University in Singapore. The support provided to A. William Richardson while a Visiting Professor at NTU is greatly appreciated.

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The International
Journal of
Accounting

Profit Sharing and Corporate Performance: Some Evidence from Bangladesh

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Key Words: Profit sharing; Corporate performance; Performance related pay; Developing country; Bangladesh

Abstract: *Despite the recent growth in profit sharing research in the Western World, little is known about the way profit sharing schemes are used in developing countries. This paper documents the incidence of profit sharing in a wide variety of Bangladeshi firms. In addition, consideration has been given whether Bangladeshi profit sharing schemes differ from those used in developed countries. Data has been collected from published annual reports, on-site semi-structured interviews and inspection of archival sources. Employee profit sharing is regulated by the Bangladesh Companies Profit (Workers' Participation) Act 1968 under which only 5% of profit before tax is reserved for the employees. This legislation is not particularly restrictive, however, as it applies to only 6.2% of companies. Furthermore, incentive bonuses comprise only 4.5% of total remuneration. Although a profit sharing scheme has been introduced in some publicly quoted firms, it does not appear to serve as a dominant mode of increasing employee motivation and promoting commitment; it has been largely concerned with meeting the legal requirements of the government regulation. The use of profit sharing in privately owned (unlisted) firms is almost non-existent. Quantitative analysis has revealed a positive association between pay and corporate financial performance where return on equity or market return on shares explain less than 2% of the variations in employee remuneration.*

Considerable effort has gone into researching of profit sharing schemes used by employers to secure employee involvement (e.g., Procter, McArdle, Hassard & Rowlinson, 1993; Smith, 1993; Ogden, 1992; Kennedy, 1995; Marks, 1995; Wood, 1996; Poland, 1996; Thomas, 1996). These studies suggest that profit sharing ensures high financial benefits for high performance and establishes the workers' claim on 'residuals' thus, causing them to be more involved with their business and more motivated to ensure its success (for a review, see Ogden, 1995). In the UK, securing greater employee involvement has been the major justification offered by employers introducing profit-sharing schemes. It is also the

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The International Journal of Accounting, Vol. 33, No. 4, pp. 469-481 **ISSN: 0020-7063.**

principal argument in the government's recent promotion of its profit-related pay scheme (Ogden, 1992, 1995).

The above findings are both theoretical in nature and based on empirical evidence from a wide variety of firms located in developed economies. Little evidence is available for firms in developing countries. The present study attempts to redress this situation.

This paper reports the findings of an empirical study of profit sharing systems in Bangladeshi enterprises. It provides additional material to enhance comparative analyses of profit sharing schemes between developed and developing countries. The study has the following objectives in the Bangladeshi environment:

1. To examine the incidence of profit sharing schemes;
2. To review and evaluate the existing government regulation on profit sharing schemes;
3. To examine whether profit sharing scheme adoption is related to socio-economic variables; and
4. To examine the relationships between profit sharing scheme adoption and corporate performance.

The next section documents the findings of previous studies on profit sharing. Subsequent sections describe the study's research method, findings, limitations and conclusions.

PREVIOUS RESEARCH

Performance-related pay (PRP) schemes are of two types: (1) long-run PRP schemes; and (2) short-run PRP schemes (Bell & Hanson, 1984). Under long-run PRP schemes, incentive benefits depend upon the long-run performance of the firm, and under short-run PRP schemes, the benefits depend upon the short-run performance of the firm. Profit sharing is considered as a short-run PRP scheme. Profit sharing schemes are a means by which employees receive a share of the profits of the company in which they work. The essence of a profit sharing scheme is the creation of a distributable pool based on the profits of the company.

Profit sharing schemes encompass a number of different computational formats with entitlement and payment varying with the profit level at which payment is triggered (Ogden, 1995). Commonly, 5–10% of the corporate profit before tax is set aside and managed by a trust for the benefit of the employees. The amount is distributed according to some agreed formula.

There are alternative methods for calculating the employees' share of profit. One alternative is to take a certain percentage of profit before tax after deducting a minimum return necessary for the investment. The minimum return is called the cost of capital. This method is consistent with the assumption that the incentive bonus is paid for performance beyond normal performance. Another method sets aside a specified percentage of profit before tax subject to a maximum limit. Under this method, there is an upper bound on the total amount the employees can share. The objectives of the upper bound are: (1) retaining sufficient fund for investment (ploughing back profit); and (2) discouraging manager income manipulation behavior. Another alternative is to employ both a lower and upper bound.

The lower bound is the minimum amount of profit that must be earned before a bonus will be paid, and the upper bound is the maximum limit to which employees share in profits. The later model satisfies the objectives of the previous two models, i.e., providing for employees' abnormal performance, maintaining sufficient fund for reinvestment, and mitigating income manipulation behavior. This model is not free from limitations. Referring to this model, Healy (1985) showed that managers manipulate profit not only by increasing the amount of reported profit but also by reducing it. He observed that managers use income decreasing accounting accruals (big bath) instead of income increasing accruals (smoothing) when earnings fall below the lower bound of a bonus scheme with a view to maximizing their own future bonuses.

Profit sharing as a financial incentive (McGuire et al., 1962; Cosh, 1975; Jensen & Murphy, 1990; Baiman, 1982) applied to all employees in a company has been found to be of limited usefulness (see Ogden, 1992, 1993, 1995). Ogden (1995), in his study of profit sharing and organizational change in the newly privatized water industry in England and Wales, argued that profit sharing is principally valued not for any immediate discernible impact on employee motivation, or as an incentive to efficient working, but rather as a rhetorical device to reinforce and support the singular importance of profit as a measure of organizational performance. From this perspective it is argued that profit sharing is more concerned with persuading employees of the legitimacy of contributing to company performance (Reed, 1989; Fox, 1985) than as a direct employee incentive. Support for this view can be found in Smith (1986), Baddon et al (1989), Bell and Hansen (1987), Dewe et al (1988) and Ogden (1995). Reed (1989) viewed profit sharing is aimed at mobilizing employees consent to increased company income performance. Smith (1986) has shown that employers typically referred to profit sharing as an attempt to make employees feel more involved and interested in the company; to increase employees' sense of commitment to the company; and to increase the sense of co-operation between management and staffs (see also Ogden, 1995).

In the UK, the Government's introduction of tax incentives encouraged companies to introduce profit sharing schemes (see Poole, 1988; Schuller, 1989; Smith, 1986). Procter et al (1993) suggest that profit sharing becomes a fundamental part of the process by which management can exercise control over efforts and rewards and, ultimately, affects the profitability of the organization. Thompson (1990) suggests that management cannot rely on coercion as the sole means of control but must engage the cooperation and consent of employees in order to be constantly able to recognize production. This is particularly true in volatile economies like Bangladesh where workers and trade unions can render the formal systems of accountability and control ineffective despite worthy intentions by management (Hoque & Hopper, 1994, 1997).

The above suggests several rationales for the introduction of a profit sharing. First, an organization's profit sharing scheme can change employee attitudes about co-operation with management on issues such as work practices and productivity improvements, and more generally their attitudes toward involvement with and commitment to the company (Ogden, 1995). Second, a profit sharing scheme adoption can be viewed as the successful result of collective bargaining between employees and the employer. Third, a profit sharing scheme adoption may be a response to government regulation.

Profit sharing in Bangladesh is, in fact, regulated by the government through the Companies Profits (Workers' Participation) Act, 1968. Under this legislation every industrial enterprise of more than 100 employees or with a capital of more than US$0.125 million or with value of fixed assets (at cost) of more than $0.25m must create a fund called 'Workers' Profit Participation Fund' with 2.5% of the firm's profit before tax. In 1989 the Act was amended and profit participation was increased to 5% of profit before tax. This paper considers whether Bangladeshi profit sharing schemes differ from those used in developed countries as described in earlier research.

RESEARCH METHOD

The Sample

This is part of a larger study examining the link between performance related pay schemes and corporate financial performance. Data were collected from published annual reports, on site semi-structured interviews and inspection of archival sources. The research was conducted in a sample of both publicly quoted and privately owned companies operating in Bangladesh.

A total of 55 industrial firms were studied from the population of Bangladeshi quoted companies in 1993 Dhaka Stock Exchange (DSE) Register of Listed Companies. The Register includes 142 companies quoted on the Dhaka Stock Exchange on 30 June, 1993. Financial reports and relevant data were not available for 87 companies. This resulted in a usable sample of 55 companies (38.7% of the total number of industrial firms listed on the Dhaka Stock Exchange). The sample firms' activities include engineering, manufacturing of food and allied products, wearing apparel, pharmaceuticals and chemicals, and footwear. In addition, a set of privately owned (unlisted) companies that do not satisfy the government legislated profit sharing conditions are also studied. Taking into consideration time and money constraints, this selection was made by taking the first 50 manufacturing companies in the 1993 Dhaka Chamber of Commerce and Industry (DCCI) Directory. The DCCI Directory population is of 5,000 business establishments. The selected firms represent only 1% of the total population and do not constitute a random sampling. It must be recognized that our results may thereby subject to a selection bias. The state of profit sharing in banks was also studied using data from three nationalized commercial banks and two privately owned commercial banks. The aim of this exercise was to determine whether or not the employers introduced profit sharing schemes solely because of government regulation or did so voluntarily.

Twenty interviewees were selected from different hierarchical levels with each organization: members of the board of directors; general managers; accountants; and trade union officials. The interview topics included: the organization structure; organization strategy; managerial control; employee reward policy; performance measurement; financial reporting; and employee attitudes towards their organizational processes and work environment. The interviews varied in length between 1 and 2 h and normally took place in their offices in informal surroundings.

Statistical Design

The first stage analysis utilizes data from the published annual reports of the selected companies. Descriptive statistics are used to examine the variety of profit sharing schemes in practice. The second stage analysis uses regression techniques to examine the relationship between profit sharing and corporate financial performance. The variables used in our regression models are: (1) profit sharing; (2) company size; (3) return on equity (ROE); and (4) market return on shares (MRS). These are defined as follows:

1. Profit sharing, for purposes of this study, is the amount of corporate profit before tax set aside and distributed to the employees of the selected companies.
2. Company size is proxied as the natural logarithm of the company's sales revenue.
3. Return on equity (ROE) is calculated by dividing net income after tax by shareholders' equity. Shareholders' equity includes ordinary share capital, reserves, and credit balances of profit and loss account.
4. Market return on shares (MRS) is calculated as follows:

$$\text{MRS} = (P_t/P_{t-1}) - 1$$

Where, P_t = price of shares in the current month, and
P_{t-1} = price of shares in the previous month.

RESULTS

Profit Sharing in Publicly Quoted Firms

As mentioned earlier, since 1968 profit sharing in industrial enterprises is regulated by the government through the Companies Profits (Workers' Participation) Act, 1968. Investigations reveal that since the legislation provides for "just 5% of profit before tax," every company in the sample reserves just 5% of profit before tax. Table 1 shows that in 74.5% of sampled companies incentive payment is less than 5%. Only 4 companies out of 55 have paid more than 10% of total pay as profit sharing benefit. Table 1 also demonstrates that sampled companies pay an average of only 4.5% of total pay as incentive bonus.

All the interviewees expressed a high degree of dissatisfaction with the low rates for profit sharing schemes. They believe that the low rate of profit sharing has little or no impact on employee motivation. They also believe that the profit sharing scheme in their organizations is governed largely by the legal requirements under the Companies Profit (Workers' Participation) Act, 1968. Thus, the evidence suggests that firms introduce profit

Table 1. Bonus as a Percentage of Total Pay in Publicly Quoted Industrial Firms During 1993

	Number of firms	*% of sample*
Below 2.5%	21	38.2
2.5% to 4.99%	20	36.3
5% to 9.99%	10	18.2
10% and above	4	7.3
Total (N)	55	100.0%

Note: Mean: 4.5%; Median: 2.9%; Standard Deviation: 2.4%.
Source: Calculated by the authors from annual reports & accounts.

Table 2. Profit Sharing in Privately-Owned (Unlisted) Companies ($N = 41$)

	Number of companies
Less than 100 employees	41
Value of fixed assets of less than $.25m	34[a]
Capital of less than $0.13m	26[b]
Profit sharing schemes	nil
Eid bonuses equal to one month's pay	13
Eid bonuses equal to two months' pay	7

Notes: [a]7 companies declined to supply the data;
[b]15 companies declined to supply the data.

sharing to comply with legal requirements, not as a means to increase employee motivation and commitment. This behavior is inconsistent with findings reported in the studies of Smith (1986), Baddon et al. (1989), Bell and Hansen (1987), Dewe et al. (1988) and Ogden (1995).

Profit Sharing in Privately Owned Companies

Inspection of archival records revealed that only 6.2% of industrial enterprises satisfied the conditions of the Companies Profit (Workers' Participation) Act, 1968. The question now arises as to whether profit sharing is practiced by choice (voluntarily) in the 93.8% of the manufacturing companies outside the purview of the legislation. Table 2 presents the profit sharing profile of companies not subject to the Act. As can be seen from the Table 2, all the companies have less than 100 employees, 34 companies have fixed assets of less than US$ 0.25 million, and 26 companies have capital of less than US$ 0.125 million. The Table further shows that not a single company has introduced a formal profit sharing scheme. However, 13 companies have paid one festival (Eid) bonus equal to one month's pay and 7 companies have paid two Eid bonuses equal to two months' pay.

Family-owned enterprises tend to recruit family members and relatives who are loyal to the owner. An interviewee put it thus; "the owner is the sole authority to decide employees' remuneration." Since there is huge unemployment in the country (18% to 37% of the labor force are unemployed or under-employed, according to Rahman, 1994) there is little room for wage bargaining. Furthermore, labor unions are absent or weak in the family-owned firms. Seen in such context, profit sharing can be seen as a "distant" issue for the privately owned firms. Books of accounts are reportedly considered secret. A trade union official remarked: "...we (workers) do not have access to the company's books of accounts." Government officials (law enforcement agencies) also indicate that they have no access to accounts in these firms. Most interviewees believe that the Registrar of Joint Stock Companies (company watchdog) lacks sufficient manpower to verify the books of accounts even given adequate access.

Profit Sharing in Banks

Since 1975 profit sharing schemes in the selected banks have been introduced using the following sharing rates:

Table 3. Profit-Sharing (Incentive Bonus) in Banks (1986–1988) (Million $)

Banks	*Profit before tax*	*Bonus*	*Bonus/profit (%)*
Sonali	$19.5	$3.50	17.95%
Janata	15.08	2.38	15.78
Agrani	14.75	2.20	14.92
Pubali	2.95	0.60	20.34

Source: Annual reports

1. If profit before tax (PBT) is < 1/3% of working fund (WF): no bonus.
2. If PBT > 1/3% of WF but PBT < 1%: 1 month's basic pay as bonus.
3. If PBT > 1% but PBT < 1.5% of WF: 1.5 months' basic pay as bonus.
4. If PBT > 1.5% of WF: 2.5 months' basic pay as bonus.

Until 1988 employees in the selected banks received incentive bonuses ranging from 14.8% to 20.3% of profit. During this period bank profit was sufficient to cover 1/3% of the working fund (see Table 3). Since 1989 bank profits (before tax) are much lower than the minimum requirement (1/3% of working fund) and therefore bank employees receive no profit-related incentive bonus. In this study working fund is the sum of total of (i) all deposits (time and demand); (ii) all borrowings; and (iii) reserve fund.

Due to the decreasing profitability since 1989 all of the banks failed to qualify for profit sharing. One of the main reasons for decreasing profitability was the increasing trend in bad and doubtful debts. Since 1989 (as per instruction of the Bangladesh Bank circular no. 34, dated 16.11.89) no bank can report in a bank's profit and loss account interest accrued but unrealized from the classified loans and advances. Classified loans are loans that are overdue more than twelve (12) months.

> "...for limitation beyond its control the bank suffered substantial loss due to suspension of interest on classified loans under the policy directives of the Government. The bank will make substantial profit when these loans are recovered." (Director's overview, Annual Report, 1990)

It is believed that bank employees are demoralized due to the elimination in 1989 of profit-related incentive bonuses. A bank employee remarked:

> "True, employees have to be blamed for the bad credit management but this is not the whole scenario. Bank management does not wholly control debt recovery. It is also dependent on political situation of the country. Bank performance has been actually increasing from the viewpoint of deposits and advances."

Discussions with some bank employees reveal that they are also demoralized, because they believe that their workload has increased without commensurate rewards. A bank employee remarked that even though bank's deposits and advances had increased, employment size did not increase in proportion. Most bank employees interviewed believe that good credit management is essential in order to revive incentive bonus. According to them, co-ordinated efforts in this respect by management, trade union, political parties, and the government is an urgent need if an 'enabling' and 'motivating' environment is to return to the banking industry. It is recognized in Bangladesh that bank loan defaults are a national crisis. "This has caused the discontinuation of incentive bonus," commented the chief executive of one nationalized commercial bank.

An International Comparison of Profit Sharing Schemes in Practice

It will be interesting to observe the dissimilarities between this study and the studies conducted in other countries. In the USA and UK, although there is no government regulation on employee profit sharing schemes, the schemes are well developed through the interplay of market forces. In the USA, typically between 10% and 12% of a firm's net profit are paid as bonuses (*The Economist*, 15 April, 1995, p.75). In the UK, there is at least one incentive scheme in all of the 500 largest companies (Chowdhury, 1993), whereas, in Bangladesh, profit sharing is found in less than 1% of the industrial enterprises. In the UK, usually 15% to 25% of employee earnings are incentive related, whereas, in Bangladesh, in 74.5% of sample firms, incentive payment is less than 5% (Chowdhury, 1993). In India, profit-sharing benefit ranges between 8.33% and 20% of salary or wages (Narain, 1983). Available data on Malaysia, Philippine, and Singapore indicates that typically 10% of profit before tax is reserved for employees (ILO, 1989).

Profit Sharing and Corporate Financial Performance

The literature suggests a close linkage between profit sharing and corporate financial performance (Baiman, 1982; Smith, 1986; Thomas, 1996; Wright, 1986). A cross-sectional regression model is used to assess the relation. Here, the null hypothesis (H_0) that employee profit sharing and corporate financial performance are unrelated may be rejected

Table 4. Descriptive Statistics for the Variables

Variables	*Mean*	*Median*	*S.D.*	*Skewness*
Employee profit sharing	\$0.006m	\$0.008m	\$0.004	2.6
Sales revenue	\$5.35m	\$1.57m	\$12.96m	6.1
Net profit	\$0.09m	\$0.02m	\$0.23m	7.4
Equity	\$1.04m	\$0.51m	\$2.94m	6.9
Return on equity (%)	8.90	7.20	2.40	1.5
Market return on shares (%)	12.7	12.3	13.1	1.4

Table 5. Correlation matrix for the variables

Variables	*LnEPS*	*LnSales*	*ROE*	*MRS*
LnEPS (Employee profit sharing)	1.0			
LnSales (Sales revenues)	.79**	1.0		
ROE (Return on equity)	.20**	0.02	1.0	
MRS (Market return on shares)	.18*	0.02	0.43**	1.0

Notes: **Significant at p`=.01, two-tailed;
*Significant at p`=.05, two-tailed.

at a significance level of 1%. Table 4 presents the descriptive statistics and Table 5 shows the correlation matrix for the variables used in the analysis.

As can be seen in Table 4, employee profit sharing and sales revenues are highly skewed. The data was therefore transformed using a logarithmic transformation. The return on equity (ROE) and market return on shares (MRS) are slightly skewed. No transformation was thought necessary and none was performed. The relationship between the measures of performance and employee profit sharing are modelled as follows:

$$\mathrm{LnEPS}_i = b0 + b_1\mathrm{LnSales}_i + b_2\mathrm{ROE}_{i\,+\,e}i \quad (1)$$

$$\mathrm{LnEPS}_i = b0 + b_1\mathrm{LnSales}_i + b_3\mathrm{MRS}_{i\,+\,e}i \quad (2)$$

Where,

LnEPS_i = Logarithm of employee profit sharing,
$\mathrm{LnSales}_i$ = Logarithm of sales revenues of *i*th firm,
ROE_i = Return on equity of *i*th firm,
MRS_i = Market return on shares of *i*th firm, and
e_i = Error term of the model.

As ROE and MRS are highly correlated (Table 5) they are not put in the same equation. Sales revenue is added to the models because it is expected that employee profit sharing varies with firm size (sales revenue being a proxy for firm size).

The results presented in Table 6 indicate that employee profit sharing is positively associated with sales revenue, the firm size proxy. Employee profit sharing is also positively associated with ROE and MRS individually (p = 0.0492–0.0500). We reject the null hypothesis that employee profit sharing and corporate financial performance are unrelated. The independent variables together explain 50.77%–51.03% variations in employee profit sharing. We also ran regression with Ln (Sales) as the single independent variable. While not presented here, it is noted that Ln (Sales) alone accounts for 49.9% of the variations in

Table 6. Regression Analysis with Log of Employee Profit Sharing as the Dependent Variable and Return on Equity (ROE) and Market Return on Shares (MRS) as Independent Variables

	Regression 1	*Regression 2*
b_0 = Constant	6.41	6.74
t-value (sig)	5.92 (0.000)	5.96 (0.000)
b_1 = LnSales	.1721	.1601
t-value (sig)	2.65 (0.005)	2.46 (0.010)
b_2 = ROE	.0028	-
t-value (sig)	1.99 (0.049)	-
b_3 = MRS	-	.0021
t-value (sig)	-	1.97 (0.050)
R^2	.5103	.5077
Adjusted R^2	.5178	.5061
F (sig)	4.01 (0.051)	3.99 (0.022)
N	55	55

employee profit sharing. Thus performance variables appear to account for only 51.03%–49.9% or 1.13% of the variations in employee profit sharing. Overall, it can be concluded that while employee profit sharing is positively associated with organizational performance, the adoption of profit sharing accounts for only a minor amount of the observed variation in performance.

DISCUSSION AND LIMITATIONS

Employee profit sharing in Bangladesh is regulated by a government legislation called Companies Profit (Workers' participation) Act, 1968. Under this legislation, every manufacturing enterprise with more than 100 employees or a capital of more than US$ 0.13 million or with the fixed assets values of more than $0.26 million must reserve 5% of profit before tax for distribution to its employees. This legislation is not particularly restrictive, however, as it applies to only 6.2% of companies in Bangladesh. The remaining 93.8% of the companies remains outside the purview of this legislation.

Our analysis indicates that profit sharing in publicly quoted firms is mainly in response to the external legitimacy offered by the Workers' Participation Act. Such a behavior is inconsistent with the suggestions made in the literature that an organization should introduce a profit sharing scheme to motivate employees to improve organizational performance (Ogden, 1992, 1995; Smith, 1986; Boûgen, 1989; Boûgen et al., 1988). The data indicates that the average incentive bonus in Bangladesh was only 4.5% of total pay. The quantitative analysis did reveal a small but a positive association between profit sharing and corporate performance.

Profit sharing schemes in banks are a separately interesting phenomenon. Until 1988, employees in commercial banks, private and public, received yearly profit-related bonus ranging from 1 to 2.5 months' basic pay depending upon bank profitability. Beginning in 1989 employees failed to qualify for incentive bonus due to low bank profitability, mainly for two reasons. First, the Bangladesh Bank (the central bank) policy no longer permitted commercial banks to credit their profit and loss account with interest from classified loans. Second, loan recovery rates decreased over the preceding years.

Limitations

Although the sample size is small the study has covered a wide range of firm characteristics e.g. large, medium and small firms, listed companies and unlisted companies, commercial firms and banks. Quantitative analysis of the data in this paper is subject to three primary limitations. First, each measure of performance used throughout the paper is an imperfect proxy for performance. For example, the accounting based measures of performance may have been subject to manipulation. In addition, the use of reported profits for any particular year as the index of corporate achievement may conflict with long-run maximization strategies by management. Second, this paper includes banks with publicly owned and privately owned firms when measuring corporate performance. As pointed out, the basis of profit sharing is different between banks and industrial companies. Moreover, one may argue that bank performance in a developing economy should take into account social and economic development considerations that may not be true in case of publicly owned and privately owned companies. Consequently, further research is advisable before firm conclusions are drawn with regard to the study's reported association between profit sharing and corporate performance in the selected companies. Third, the study is constrained to the period of 1993-94.

RESEARCHER POLICY OBSERVATIONS

The following observations are somewhat beyond the realm of the research presented above. However, the researchers have developed the following opinions based on their broader understanding of the Bangladeshi environment.

The Bangladeshi Company's Profit (Workers' participation) Act, 1968 discussed earlier needs to be amended. First, coverage of the regulation should be extended further so that large number of business establishments can reap the benefit of profit sharing schemes. Second, considering that in overseas countries profit-sharing percentage is more than 5%, the "just 5% of profit before tax" provision of the Bangladeshi Act can be replaced by "at least 5% of profit before tax." Like developed economies, the Bangladeshi government should give lucrative tax facilities to those business establishments that have wider incentive schemes.

It is recognized that in Bangladesh, bank loan recovery rates depend not only on bank management's performance but also on the national political condition. That is to say, it is recognized that political instability tends to reinforce a loan-default culture. We believe that employees, trade unions, politicians, and the Bangladeshi government must work together to revive bank profitability and incentive bonus.

As pointed out, profit sharing schemes used in the selected Bangladeshi companies were mainly in response to government regulation. In Bangladesh, the industry sector is subject to serious political crisis as its trade unions have pervasive political influence and they are linked to the political parties (Hoque & Hopper, 1994). The interaction of these factors renders extant control systems ineffective in the eyes of management. It is argued that profit sharing can change employee attitudes about co-operation with management on issues such as stable work environment and productivity improvements. Profit sharing can become a fundamental part of the process by which management can exert discipline over its workforce and develop the harmonious employer-employee relationship that is a precondition for increasing productivity of the company.

Acknowledgments: Thanks are due to Haim Falk, Trevor Hopper, Bob Scapens, Chris Guilding and Mike Dempsey for their helpful comments and suggestions on an earlier draft of this paper. The useful comments of two anonymous reviewers and the Editor are also gratefully acknowledged.

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The International Journal of Accounting

Internationalizing Accounting Education Through an Integration Approach: A Survey of U.S. Schools

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Key Words: Integration of international accounting topics; Internationalization of accounting curricula; Coverage of international accounting topics; Integration approach; Resource materials in internationalizing accounting curricula; Incentives and challenges in internationalizing accounting curricula.

Abstract: *The integration of international accounting topics throughout the curriculum (integration approach) is often recommended as the most preferred/desired method of internationalizing the accounting curriculum. This study presents the results of survey research on the extent of integration, use of instructional resources, and perceived incentives and obstacles to internationalizing accounting curricula through the integration approach in U.S. schools. Additionally, the paper suggests methods and instructional resources that can be used to add an international dimension into the accounting curriculum through an integration approach.*

The findings reveal that the integration approach of internationalization is used more frequently in undergraduate programs (61%) compared to graduate programs (52%). Financial accounting is the most frequently integrated, and auditing and taxation are the least frequently integrated areas for both undergraduate and graduate programs. The integrated lecture is the most popular method of integrating international topics into accounting courses, although other instructional resource materials such as foreign annual reports, assigned articles, and cases are also used. The findings of this study should benefit faculty currently involved in international accounting education as well as those planning on internationalizing their program in the future.

Several reports (AAA, 1986; *Perspectives...*, 1989; AECC, 1990) have criticized the current state of accounting education in the United States. Pointing to the failure of educators to respond to the changing business environment, these reports have recommended significant changes in accounting education. "The need for changes has arisen because accounting programs have not kept pace with the dynamic, complex, expanding, and constantly changing profession for which students are being educated" (AECC, 1990, p. 305).

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The International Journal of Accounting, Vol. 33, No. 4, pp. 483-507 **ISSN: 0020-7063.**

One recommendation common to all these reports has been the need to include an international emphasis in accounting education. The Accounting Education Change Commission (AECC) advocated the inclusion of both international business and accounting courses in the accounting curriculum. This position was supported by the leadership of the major public accounting firms: "The successful practitioner requires general knowledge that covers a number of factors...(including) a sense of the breadth of ideas, issues, and contrasting economic, political, and social forces in the world" (*Perspectives...*, p.7). Additionally, current standards of the American Assembly of Collegiate Schools of Business (AACSB) require the inclusion of global issues in the curriculum (AACSB, 1993, p.18).[1]

From a practical perspective, U.S. accountants and auditors are often confronted with situations that require knowledge of the accounting principles of other countries (Tondkar et al., 1994). This is particularly true when a U.S. company (1) prepares statements for consolidation by a non-U.S. parent, (2) seeks to raise capital in foreign markets, and/or (3) has non-U.S. investors for whom the company prepares financial statements in accordance with the foreign generally accepted accounting principles (AICPA, SAS No. 51, par. 1-8).

Responding to these concerns, business schools have sought to internationalize their accounting course offerings. The accounting curriculum can be internationalized by using one of two approaches: offering a separate international accounting course or integrating selected international accounting topics into existing accounting courses (integration approach). While the two approaches can also be used in conjunction, it is generally agreed that integration is the more desirable approach to internationalize the accounting curriculum (AAA, 1973; Burns, 1979; Mintz, 1980; Stout et al., 1988). The integration approach exposes all accounting students to the international dimension of accounting, not just those students taking an elective course in international accounting. This is more in line with the AACSB (1985) recommendation that "every student should be exposed to the international dimension through one or more elements of the curriculum." Moreover, many domestic accounting issues have international counterparts; thus, incorporating coverage of international issues is a natural extension of domestic issues. Introducing international materials in an accounting classroom not only exposes students to accounting practices in other countries, but also enhances and reinforces their understanding of the accounting principles under discussion. Additionally, offering a separate international accounting course is often not practical due to the lack of resources or other restrictions (e.g., the inability to add an additional course to the curriculum).

The objective of this paper is to examine the extent of coverage and methods currently employed in the U.S. to internationalize accounting curricula using the integration approach. Specifically, this paper investigates (1) the extent of the integration approach being utilized in internationalizing accounting curricula, (2) the courses and topics that are being integrated, (3) the instructional materials and resources being employed to internationalize the accounting curriculum, and (4) the perceived incentives and obstacles to internationalizing accounting curricula. Additionally, the paper suggests methods and instructional resources that can be used to add an international dimension into the accounting curriculum through an integration approach. The findings of this study should benefit faculty currently involved in international accounting education as well as those planning to internationalize their programs in the future.

The paper is organized in the following manner. The next two sections discuss the relevant literature and the data collection process. The analysis of data and the findings of the study are then presented and discussed. In the following section, suggested methods of internationalizing the accounting curriculum through an integration approach is discussed. The final section contains the summary and conclusions of the paper.

SURVEY OF LITERATURE

In the last two decades, various studies dealing with international accounting education in the U.S. have been published. The studies relevant for the present study can, however, be classified into two broad categories. Studies in the first category investigate the approaches utilized in the U.S. to internationalize accounting curricula (Burns, 1979; Mintz, 1980; Sherman, 1987; Stout and Schweikart, 1989; Huang and Mintz, 1992). Studies in the second category discuss various innovative approaches that can be used to integrate selected international accounting topics into accounting courses (Meek, 1985; McClure, 1988; Stout et al., 1988; Bloom and Collins, 1990; Bloom et al., 1992; Tondkar et al., 1994; O'Connor et al., 1996). Although a number of studies have examined the strategy by U. S. schools of offering a separate international accounting course as a way to internationalize the accounting curriculum, only a few studies have examined, in any detail, the use of the integration approach to internationalize the accounting curriculum. Since the objective of this paper is to examine how U.S. schools are internationalizing their accounting curriculum through the integration approach, both categories of international accounting education studies are of direct interest to the current study and are discussed below.

In a seminal study, Burns (1979) surveyed U.S. schools concerning existing and anticipated international accounting course offerings. While the study did not specifically examine the integration approach, Burns (1979) identified several obstacles to implementing the integration approach across the curriculum. The most important challenge identified was the lack of resources in the form of faculty qualified to teach international aspects of accounting and textbooks or supplementary materials to be used. Mintz (1980), replicating Burns' (1979) study, reinforced the need for implementing the integration approach as an ideal strategy to internationalize accounting curricula. However, the study also noted the practical constraints (i.e., lack of textbooks and qualified faculty) that needed to be overcome to implement the integration approach. In addition, the study discussed the efforts of organizations such as the International Accounting Section (IAS) of the American Accounting Association and the AACSB to promote internationalization of accounting curricula through position papers, workshops, and the exchange of syllabi.

Sherman (1987) was the first to examine which of the two approaches (a separate international accounting course or integration) was being used by U.S. schools to internationalize their accounting curriculum. He surveyed chairs of accounting programs at AACSB accredited schools concerning international accounting education at their institutions and how they were satisfying the "worldwide dimension" of then (1985-1986) AACSB requirements. The results of the study indicated that most responding schools were following the strategy of incorporating international topics into traditional accounting courses (the integration approach) rather than requiring a separate international accounting course. Contrary to AAA's (1978) recommended approach of international coverage in principles of accounting classes, most responding schools chose to integrate international topics into intermediate and advanced accounting classes. The study also reported the international topics that are most likely to be covered in different accounting courses at both the undergraduate and graduate levels.

Stout and Schweikart (1989) surveyed practitioners and academics on the importance of international accounting to the undergraduate curriculum. In terms of effectiveness of covering international accounting in the undergraduate curriculum, the respondents rated the separate course strategy as the most effective, followed by the strategies of integration throughout the accounting curriculum, integration throughout the business curriculum, and coverage in particular accounting courses. On the question of which method(s) schools were actually using, the results were consistent with Sherman (1987). The separate course strategy was being used least while the preferred options were to integrate international topics either throughout the business or the accounting curriculum.

Huang and Mintz (1992) surveyed members of the IAS on the current state of international accounting education in the U.S. and abroad. The respondents to the survey felt that the "preferred" method of international accounting education was to offer a separate international accounting course at the graduate level followed by integration of certain courses. The least supported option was to offer a separate international accounting course at the undergraduate level.

From the limited studies that have been conducted in this area and discussed above, the results indicate that the integration approach is increasingly used to internationalize accounting curriculum at U.S. schools. However, the lack of faculty qualified to teach international aspects of accounting and appropriate teaching materials is generally regarded as a major obstacle to implementing the integration approach.

Responding to these concerns, a number of studies have been published that discuss and share the experiences of different accounting faculty and schools in integrating an international accounting dimension into undergraduate and graduate accounting courses (Meek, 1985; McClure, 1988; Stout et al., 1988; Bloom and Collins, 1990; Bloom et al., 1992; Tondkar et al., 1994; O'Connor et al., 1996). These studies are very useful because they discuss procedures and suggestions as well as source materials that can be used by accounting instructors in integrating an international dimension in different accounting classes.

Meek (1985) suggests that the international aspects of certain managerial accounting topics such as planning and control, transfer pricing, and performance evaluation can be utilized to internationalize the introductory managerial accounting course. McClure (1988) discusses the process of integrating an international dimension into the introductory financial accounting course. Instructional resource materials and guidelines for their utilization by accounting faculty who lack expertise in international accounting are also described. Both of these articles offer suggestions for overcoming some of the previously mentioned obstacles—lack of faculty expertise in international accounting and lack of supporting instructional materials.

Stout et al. (1988) and Bloom et al. (1992) suggest methods to add international topics to upper-level accounting courses. Stout et al. (1988) present a case study based on an assumed set of transactions and events for companies located in Australia, Germany, the U.K., and the U.S. Differences in accounting principles and disclosures among the countries are illustrated by using comparative income statements. Bloom et al. (1992) emphasize the relation between accounting principles and cultural factors in analyzing the accounting treatment of topics such as inventory costing, depreciation methods, and business combinations in France, Japan, Sweden, the U.K., and the U.S. As in previous studies, Bloom et al. (1992) attempt to provide information not readily available in order to enhance the international component in intermediate and advanced accounting courses.

Bloom and Collins (1990) recommend the integration of core accounting courses rather than developing a separate course and hiring new faculty. Their article suggests the use of instructional resource materials such as historical accounting textbooks, published international case studies, international accounting associations' materials, and lectures by international visitors.

Tondkar et al. (1994) describe two methods to add an international dimension to upper-level financial courses by incorporating foreign annual reports. In the first method, the international perspective is introduced into existing courses by presenting information from foreign annual reports from selected countries to contrast the treatment of topics such as accounting for goodwill, inventories, deferred taxes, etc. with the U.S. treatment. The second method covers the international topics as a distinct component of an existing course. Either of the two methods could be tailored to the expertise of the faculty member and time constraints.

Stout and Schweikart (1989) indicate that if only one course were to be selected for internationalization, that course would be the advanced accounting course. O'Connor et al. (1996) suggest a procedure for integrating an international perspective into the advanced accounting course with the use of foreign financial statements and required SEC filings by firms from developed countries. They recommend first introducing, early in the course, the primary factors that influence the development of accounting systems. As the advanced accounting course progresses, and particular topics are discussed, the accounting treatments of these topics from other countries are presented to illustrate the differences between U.S. GAAP and non-U.S. GAAP and to emphasize how the environmental factors influenced the development of accounting practices.

While the first category of studies discussed in the literature review focuses on investigating the approaches utilized by U.S. schools in internationalizing accounting curricula (separate international accounting course, integration approach, etc.), the second category of studies recommend various methods that could be used to surmount some of the obstacles inherent in implementing the integration approach. The present study complements and extends the extant literature by examining both the extent of the use of the integration approach in U.S. schools as well as the implementation issues surrounding the integration approach in internationalizing the accounting curriculum. This study is more comprehensive than earlier studies in terms of its coverage of the integration approach and in terms of the comprehensiveness of the sample. The sample in the current study (570 schools) is much larger than earlier studies and captures a stronger cross-section of schools with different demographics (e.g., undergraduate vs. graduate, accredited vs. non-accredited, etc.). Additionally, given the significant changes in the 1990s, the establishment of the EU market, the NAFTA treaty, the emergence of the Pacific Rim countries, and the explosion of the international capital markets, it is a good time to reassess how U.S. accounting education is responding to the globalization of business.

DATA COLLECTION

The data were gathered through a questionnaire sent to chairs/faculty members of 570 accounting programs selected from the 1995 edition of the *Hasselback Accounting Faculty Directory*.[2] The sample used for this study is one of the most comprehensive samples dealing with the coverage of international accounting topics in the U.S. It represents approximately 72 percent of all U.S. accounting programs included in the 1995 edition of the *Hasselback Accounting Faculty Directory*. The first part of the questionnaire requested demographic information about the institution (e.g., programs offered, accreditation status, number of faculty/students). All respondents were instructed to complete this section and return the questionnaire even if their institutions did not internationalize accounting curricula.

The next section of the questionnaire requested information on the methods used to internationalize the accounting curriculum (e.g., separate course, integration approach, etc.). The integration segment of this section was divided into five parts. The first four parts covered financial, cost/managerial, tax, and auditing courses. In each of these parts, a grid containing international accounting topics that might be integrated in that particular area, was presented. Respondents were asked to indicate which course(s), if any, included coverage (integration) of the topics. The fifth part covered instructional resource materials used to integrate topics, obstacles encountered, and incentives available in internationalizing accounting curricula.

In sending the questionnaire, the following strategy was selected: (1) The questionnaire was sent to a faculty member of an accounting program identified in the *Hasselback Accounting Faculty Directory* as having research and/or teaching interests in international accounting. For those accounting programs with no such identified faculty member, the questionnaire was sent to the chair of the department, and they were requested to forward the questionnaire to appropriate faculty for completion.

Of the total of 201 responses received, 194 were usable responses (a 34 percent response rate). The profile of responding accounting programs appears in Table 1. Of the 194 responding programs, 188 offer undergraduate degrees; 152 offer graduate degrees; and 146 offer both undergraduate and graduate degrees. One hundred twenty-six (65%) of the responding institutions have AACSB business school accreditation and 73 (38%) of the accounting programs are AACSB accredited.

Table 1. Profile of Responding Institutions

	Number	*Total Number of Respondents*
Degrees Offered:		
Undergraduate	188	194
Graduate	152	194
Undergraduate & Graduate	146	194
AACSB Business Accreditation	126	194
AACSB Accounting Accreditation	73	194

Table 2. Approaches to Accounting Curriculum Internationalization

Approaches to Internationalize Accounting Curricula	*Undergraduate**	*Graduate**
Offer Multidisciplinary International Business Course in which Accounting Topics are Covered	11.7%	16.5%
Offer Separate International Accounting Course	36.2%	59.2%
Offer Separate International Tax Course	2.7%	30.3%
Integrate International Dimension Into Accounting Courses	61.0%	52.0%
No Specific Internationalization Approach	31.4%	12.5%
Total Respondents	188	152

Note: *The percentages are of those respondents who answered "yes." Since respondents could choose more than one answer, the sum of all items in the columns do not necessarily equal one.

ANALYSIS OF RESULTS

Each responding institution was asked to indicate the approach (es) utilized to internationalize the accounting curriculum. Table 2 summarizes these responses, by undergraduate and graduate programs. There appear to be significant differences between the preferred approach(es) for undergraduate and graduate programs. Many more of the responding graduate programs (59.2%) offer separate courses in international accounting than do the undergraduate programs (36.2%). Only a small number of responding undergraduate programs (2.7%) offer a separate international tax accounting course, while 30.3% of the responding graduate programs offer this course. A relatively small number (12.5%) of the institutions with graduate programs have no specific approach to internationalizing the curriculum, but almost one-third (31.4%) of the undergraduate programs have no specific approach.

The responding institutions indicate a strong support for the integration approach to internationalizing the accounting curriculum. Sixty-one percent (61%) of the responding undergraduate programs, and 52% of the responding graduate programs indicated that they used the integration approach. The remainder of this paper will address the integration approach to internationalizing the accounting curriculum.

Coverage of International Accounting Topics Through Integration Approach

The extent of integration of international accounting topics into the curriculum by type of program is presented in Table 3. Although earlier studies on internationalization of accounting curricula have reported low levels of support for the integration approach (Burns, 1979, p.137; Mintz, 1980, p. 144), the findings of this study show strong support for the use of the integration approach in international accounting education. It appears that over one-half of the respondents, except for those from graduate non-accredited business schools, utilize the integration approach. This finding is consistent with Gray and Roberts' (1984) suggestion that "In the long term, it can be expected that there will be some greater movement towards a more integrated approach whereby international aspects are incorporated into existing courses currently concerned with purely domestic issues" (p.269). This finding is also consistent with the findings of Cohen et al. (1991). In their survey study, Cohen et al. found that respondents believed that more international accounting topics

Table 3. Percentage of Responding Institutions Integrating International Accounting Topics Into Accounting Curricula by Type of Program

Type of Program	*Undergraduate**	*Graduate**
All Undergraduate Programs	61%	—
All Graduate Programs	—	52%
AACSB Accredited Business Schools	63%	55%
AACSB Accredited Accounting Programs	59%	55%
Non-Accredited Business Schools	57%	46%

Note: *The numbers in Table 3 are computed by dividing the number of responses for each item (Type of Program using integration) by the total number of appropriate responses for that category. For example, 61% for "All Undergraduate Programs" is calculated by dividing the 114 undergraduate programs indicating that they utilize an integration approach by 188, the total number of undergraduate responding programs.

should be integrated into the accounting curriculum than what they believed was taking place at the time of the survey (p.299).

Also, it is noteworthy to mention that integration is more frequently used at the undergraduate than the graduate level. The integration approach of internationalizing accounting curricula is more preferred/desired (Burns, p.137; Mintz, p.144; Sherman, p.274; Cohen et al., p.300), especially at the undergraduate level. Cohen et al. (1991) stated "The key to introducing international issues within undergraduate business programs is to facilitate their integration within functional courses. We cannot rely upon the stand-alone international business or international accounting course as the only source of international coverage" (p. 300). Many accounting problems/issues discussed at the undergraduate and graduate levels are not country specific (e.g., goodwill accounting, asset valuation, transfer pricing, etc.). Comparing and contrasting the accounting treatment of these topics in other countries is a logical extension of course coverage. Past studies have shown that the integration approach was not extensively used due to lack of instructional resource materials and familiarity of instructors with international accounting topics (Burns, p. 137; Mintz, p.144; Bloom and Collins, p.310; Sherman, p.274; Stout and Schweikart, p.138; O'Connor et al., p.316). In response to these concerns, an increasing number of textbooks are now including excerpts on international aspects of different topics. The results of this study imply that the trend in internationalizing accounting curricula through the integration approach is increasing. The integration of different international accounting topics in specific undergraduate and graduate courses is discussed in detail in later sections of this paper.

Topics Covered by the Integration Approach

Compared to previous studies, this paper is unique in that it attempts to identify which international accounting topics are integrated into accounting courses, what courses are used to integrate international accounting topics, and the relative frequency of coverage of such topics in specific courses. As discussed earlier, one section of the questionnaire dealt with the integration of international accounting topics into accounting courses. This section contained four grids, one for each of the following areas: financial, cost/managerial, tax, and auditing. Each grid contained a list of topics that could be integrated into courses in

Table 4. Integration of International Accounting Topics by Accounting Area and Type of Program

Accounting Area	*Undergraduate No. of Respondents* (%)*	*Graduate No. of Respondents* (%)*
Financial Accounting	104 (91%)	60 (76%)
Cost/Managerial Accounting	61 (54%)	53 (67%)
Tax Accounting	30 (26%)	39 (49%)
Auditing	41 (36%)	28 (35%)
Total number of respondents indicating use of integration	114	79

Note: *The number of respondents for each accounting area (e.g., financial, managerial, etc.) represents those respondents indicating that they use an integration approach. However, some of these respondents did not complete the grids dealing with integration of specific international topics in different accounting areas. Thus, the number of respondents in each area shown in Table 4 do not correspond to the total number of respondents completing grids for each specific area (Tables 5-8).

these areas. These topics and the courses in which the topics could be integrated were identified by reviewing previously published studies. Respondents were asked to indicate which course(s), if any, included coverage (integration) of the topics. Table 4 provides an overview of integration of international accounting topics by accounting area and type of program (i.e., undergraduate and graduate). As reported in Table 4, financial accounting is the most frequently integrated area for both undergraduate and graduate programs. This is not surprising since more courses are offered in financial accounting than other areas. At the graduate level, financial accounting is followed by cost/managerial, tax, and auditing, respectively, for integration of international topics. However, for the undergraduate level, financial accounting is followed by cost/managerial, auditing, and taxation, respectively. Tables 5, 6, 7, and 8 reproduce these grids with the percentage of responses for each topic and course. The following sections discuss the findings of the study with regard to the integration of international accounting into specific areas by courses.

Financial Accounting Courses

Table 5 presents information on the coverage of international accounting topics by the integration approach in undergraduate financial accounting courses (introductory, intermediate, advanced accounting, and theory) and graduate theory course. In comparing the total number of respondents indicating coverage of international accounting topics in financial accounting courses, it appears that the most frequently internationalized financial accounting course is advanced accounting, followed by intermediate accounting, introductory accounting, and graduate accounting theory. This finding was expected since many of the topics covered in advanced and intermediate accounting courses lend themselves to internationalization. Accounting theory at the undergraduate level had the fewest number of responses, largely reflecting that this course is offered only at few schools.

The five most frequently integrated topics in introductory financial accounting are: foreign currency transactions, analysis of foreign financial statements, international accounting standards, comparative standard setting processes, and social responsibility

Table 5. Integration of International Financial Accounting Topics: Courses in which Topic is Covered*

	Undergraduate					Graduate	
Topic	Introductory %**	Intermediate %**	Advanced %**	Accounting Theory %**	Other %**	Accounting Theory %**	Other %**
Analysis of Foreign Financial Statements	38	20	28	3	50	32	78
International Accounting Standards	35	38	45	6	60	84	61
Segmental Reporting	9	38	41	33	70	40	33
Social Responsibility Accounting	26	16	10	33	50	36	33
Consolidation of Foreign Affiliates	12	9	86	3	50	24	67
Foreign Currency Transactions	44	22	84	33	60	44	72
Capital/Revenue Reserve Accounting	3	13	16	13	-	20	22
Comparative Disclosure Requirements	24	24	26	47	50	48	61
Comparative Standard Setting Process	26	29	26	3	50	44	50
Inflation Acccounting	9	40	22	33	20	32	28
Comparative Financial Accounting Practices							
Deferred Taxes	6	4	13	13	10	32	39
Pension Accounting	3	33	6	13	20	16	11
Inventory	18	38	12	13	30	24	56
Fixed Assets	18	35	15	13	40	28	50
Intangibles	18	31	22	13	20	32	44
Stockholders' Equity	18	29	16	13	20	24	33
Investments	18	20	16	13	20	28	33
Long-term Liabilities	12	18	13	13	20	24	17
Consolidations	3	16	51	13	20	20	28
Leases	6	35	10	13	10	8	33
Revenue Recognition	18	36	13	13	20	24	44
Expense Recognition	15	33	12	13	20	28	39
Other Topics:	3	-	3	7	-	-	-
Number of respondents making entries in specific courses:	34	55	69	15	10	25	18

Notes: *Total number of respondents who made at least one entry = 87.
**Percentages (%) are computed by dividing the numbers of entries for each item in a course by the total number of respondents appearing at the bottom of each column.

accounting. This finding is extremely interesting in that some respondents introduce complex issues such as foreign currency transactions at the introductory level. A cursory examination of introductory accounting texts available to the authors revealed that some of these books contained excerpts of certain international accounting topics. These excerpts allow instructors to add an international dimension by integrating certain international aspects into the topics being discussed.

The most frequently integrated topics in intermediate accounting are: inflation accounting, international accounting standards, segmental reporting, inventory costing, accounting for revenue recognition, accounting for fixed assets and leases, and pension accounting. Sherman (1987) found that undergraduate intermediate accounting courses would typically supplement domestic inflation accounting with its international counterpart. Since most intermediate accounting texts contain a chapter on inflation accounting, instructors covering this topic presumably discuss inflation accounting in other countries. It is also important to note that most other areas of accounting topics covered in intermediate accounting (e.g., intangibles, expense recognition, stockholders' equity, etc.) are frequently internationalized (see Table 5). One possible explanation for the coverage of comparative financial accounting practices (e.g., inventory costing, pension accounting, intangibles, etc.) may be due to the inclusion of such topics in the more current editions of intermediate texts. An examination of intermediate texts available to the authors shows some coverage of international aspects of accounting topics.[3] As discussed earlier, this allows instructors to easily internationalize accounting topics being discussed.

The four most frequently covered international accounting topics in advanced accounting are: consolidation of foreign affiliates, foreign currency transactions, comparative consolidation practices, and the international accounting standards. This finding is not surprising since three of the four items (consolidation of foreign affiliates, foreign currency transactions, and comparative consolidation practices) are topics ordinarily covered in advanced accounting. Therefore, comparing and contrasting the treatment of these issues in the U.S. with other countries is a natural extension of the topics being discussed. Further, the three above items are also identified by O'Connor et al. (1996) as being prime examples of international topics that can be most effectively integrated in the advanced accounting course. Sherman (1987) also found that consolidations and foreign currency translation were topics that would typically be internationalized.

With the exception of international accounting standards, topical coverage in the accounting theory course (graduate and undergraduate), for the most part, is evenly spread. International accounting standards are covered most frequently in the graduate accounting theory course but are among the least frequently covered topics in the undergraduate accounting theory course. It is interesting to note that the comparative financial accounting practices (e.g., accounting for deferred taxes, intangibles, fixed assets, investments, expense recognition, inventories, etc.) are more often internationalized in graduate theory than undergraduate theory courses. Integration of international topics is more prevalent in "Other Financial Accounting" graduate courses than undergraduate courses. As noted above, few programs offer additional financial courses at the undergraduate level. Thus, this result is not unexpected.

Table 6. Integration of International Cost/Managerial Topics: Course(s) in which Topic is Covered*

	Undergraduate				Graduate			
Topic:	*Managerial* %**	*Advanced Managerial* %**	*Cost* %**	*Other* %**	*Managerial* %**	*Advanced Managerial* %**	*Cost* %**	*Other* %**
International Cash & Working Capital Management	21	50	10	23	5	36	10	8
Organizational Structure of Multinationals	28	13	29	31	37	27	40	31
Budgeting in An International Business	21	25	24	31	37	55	50	15
International Transfer Pricing	69	50	67	38	74	82	90	54
Performance Evaluation of Foreign Operations	34	25	29	38	42	55	60	23
Foreign Exchange Risk Management	10	25	5	38	21	18	40	62
Foreign Investment Analysis	7	25	5	54	16	27	40	69
Accounting Information Systems for Multinational Organ.	14	38	10	38	16	27	40	31
Managerial Accounting Practices in Different Countries	34	25	24	15	42	36	60	15
Legal and Ethical Considerations	38	50	43	38	37	55	40	46
Other Topics:	-	-	-	-	5	18	10	-
Number of respondents making entries in specific courses:	29	8	21	13	19	11	10	13

Notes: *Total number of respondents who made at least one entry = 59.

**Percentages (%) are computed by dividing the numbers of entries for each item in a course by the total number of respondents appearing at the bottom of each column.

Table 7. Integration of International Taxation Topics: Course(s) in which Topic is Covered*

Topic:	Undergraduate			Graduate		
	Individual Taxation %**	Corporate Taxation %**	Other %**	Individual Taxation %**	Corporate Taxation %**	Other %**
Source of Income and Allocation of Deductions	47	58		43	37	67
Foreign Tax Credits	74	79		57	68	78
Separate Limitation Rule	11	33		29	26	44
Possession Tax Credit	5	42		14	26	33
Taxation of Foreign Corp. with U.S. Source Income	11	54		29	63	67
Branch Profit Tax	5	25		29	37	56
Controlled Foreign Corporations	5	46		29	42	47
Passive Foreign Investment Companies	5	25		29	47	22
Foreign Personal Holding Companies	5	25		29	42	22
Foreign Sales Corporation	5	42		29	53	44
Transfer Pricing Rules - Section 482	16	54		14	74	44
Foreign Currency Transactions	21	33	100	14	58	33
Foreign Investment in U.S. Real Estate	5	21		29	42	33
Value Added Taxes (VATs)	11	38		29	37	11
World-wide Tax Minimization	11	38		14	42	33
Repatriation of Profits	16	38		14	26	22
Tax Treaties	21	42		29	26	44
Minimization of Import Taxes	11	25		14	11	11
Other Topics:	5	4		14	5	11
Number of respondents making entries in specific courses:	19	24	1	7	19	9

Notes: *Total number of respondents who made at least one entry = 39.

**Percentages (%) are computed by dividing the numbers of entries for each item in a course by the total number of respondents appearing at the bottom of each column.

Cost/Managerial Courses

Table 6 presents the results for the cost/managerial topic integration grid. The three most frequently integrated courses are: managerial and cost accounting at the undergraduate level, followed by managerial accounting at the graduate level. International transfer pricing is the topic most often integrated at both the undergraduate and graduate levels in almost all courses. This finding is consistent with Burns (1979), Mintz (1980), Stout and Schweikart (1989), and Meek (1985) who suggested that transfer pricing is an international topic that can be easily integrated in cost/managerial accounting courses. Sherman (1987) found that transfer pricing is one of the most frequently integrated topics in advanced cost accounting courses. Other topics with a high level of integration are: performance evaluation of foreign operations, managerial accounting practices in different countries, legal and ethical considerations, international cash and working capital management, foreign investment analysis, foreign exchange risk management, and accounting and information systems for multinational organizations. Sherman's (1987) study found similar results with regard to performance evaluation of foreign operations, accounting and information systems for multinational organizations, and legal and ethical considerations.

As discussed earlier, many textbooks now contain excerpts of certain international accounting topics. These excerpts allow instructors to easily integrate an international dimension into their lectures.

Tax Courses

Table 7 presents the results of the tax integration grid. Most of the integration of international tax topics occur in undergraduate and graduate corporate taxation courses. This reflects the growing importance of international tax considerations for companies operating in today's global environment. However, two topics that are reported to be integrated with some frequency in individual taxation at both undergraduate and graduate levels are foreign tax credits and source of income and allocation of deductions. These two topics are also among the most often integrated topics in corporate taxation courses, along with transfer pricing rules, taxation of foreign corporations with U.S. source income, foreign currency transactions, and tax treaties.

Auditing Courses

Table 8 presents the results of the auditing integration grid. Based on the responses, most of the integration of international topics occurs in undergraduate auditing and graduate advanced auditing courses. International auditing standards, comparative auditor's report, and auditing foreign subsidiaries, are consistently the most often integrated topics. Surprisingly, based on the responses, there is minimal integration of international topics in the basic graduate auditing course.

Instructional Resource Materials Used in Covering International Accounting Topics

Table 9 presents information on the instructional resource materials used to internationalize accounting curricula by the integration approach. The integrated lecture approach

Table 8. Integration of International Auditing Topics: Course(s) in which Topic is Covered*

	Undergraduate			Graduate		
Topic:	Auditing %**	Advanced Auditing %**	Other Auditing %**	Auditing %**	Advanced Auditing %**	Other Auditing %**
Comparative Auditor's Report	16	3		4	8	2
Auditing Foreign Subsidiaries/Affiliates	11	2		4	7	2
International Auditing Standards	17	2		5	12	1
Comparative Qualification & Licensing Practices	7	2		3	4	1
Internal Auditing in Multinational Organizations	8	3	1	4	7	1
Other Topics:	1	1			1	
Number of respondents making entries in specific courses:	25	5	1	9	14	3

Notes: *Total number of respondents who made at least one entry = 39.

**Percentages (%) are computed by dividing the numbers of entries for each item in a course by the total number of respondents appearing at the bottom of each column.

Table 9. Instructional Resource Materials Used in Integration of International Topics*

	Undergraduate No. of Respondents	*Graduate No. of Respondents*
Integrated Lecture	66	33
Foreign Annual Reports	25	21
Assigned Articles	32	24
Videos	14	3
Cases	28	25
Projects	12	14
Others	4	2

Notes: *A review of the respondents' written comments revealed the following examples of instructional resources.

Cases:

1. Harvard Business Review Cases
2. *International Accounting: A Case Approach* by J. A. Schweikart, S. J. Gray, and C. B. Roberts (McGraw-Hill, 1995).

Assigned articles from:

1. *The Wall Street Journal*
2. *Financial Times*
3. *Economist*
4. *Fortune*
5. *Euromoney*
6. *Business World*

Videos:

1. Irwin's Managerial/Cost Videos, Vol. VI, Segment 6, *International Accounting*.
2. PBS videos of Life & Business in Japan (*American Game--Japanese Rules*).

Other instructional resource materials:

1. Other publications
   a. AICPA's *The Profession of Accounting in Foreign Countries* series
   b. Coopers & Lybrand's *International Accounting Summaries: A Guide for Interpretation and Comparison* (John Wiley & Sons, 1993).
   c. Price Waterhouse's *Doing Business in...*series
   d. *IASC Insight, IASC Annual Review*, OECD publications, EU publications.
2. Internet
   a. European Union homepage.
   b. SEC's homepage (for Form 20-F).
3. International databases
   a. *Compact Disclosure*
   b. *Compustat*
   c. *Lexis-Nexis*

appears to be the most frequently used method to internationalize the curriculum at both the graduate and undergraduate levels. Although respondents did not specify the instructional resource materials (titles of books, cases, articles, etc.) used in the integrated lecture approach, it is presumed that instructors either utilize their prepared remarks on international accounting topics or rely on excerpts on international accounting topics provided in many textbooks and instructors' manuals. As discussed earlier, a cursory examination of introductory, intermediate, and advanced accounting textbooks available to the authors revealed that these texts generally contain some excerpts on international accounting topics such as the International Accounting Standards Committee, the International Federation of Accountants, the International Organization of Securities Commissions, accounting for foreign currency transactions and translations, goodwill, leases, deferred taxes, inventories, investments, consolidations, etc. These excerpts can be used to add an international dimension to the accounting topics being discussed. The other instructional resource materials used are: assigned articles (newspaper and journal), cases, foreign annual reports, projects, and videotapes. It appears that a combination of source materials is utilized to integrate international accounting topics into the accounting curriculum. The instructional resource materials identified in the respondents' written comments are summarized in Table 9.

Incentives and Obstacles to Internationalize the Accounting Curriculum

Internationalization of an accounting curriculum requires strong commitment and interest on the part of both school administrators and faculty. Although much has been written about the necessity and benefits of internationalization, there are also many barriers. In this section, the incentives and obstacles to internationalization are examined.

Results on incentives and obstacles to internationalize the accounting curriculum are presented in Table 10. Consistent with Gray and Roberts' (1984) and Sherman's (1987) assertions, accreditation requirements are one of the leading motivating factors for internationalization of the accounting curriculum in the U.S. In this study, accreditation requirements were considered the most important incentive for internationalization (mean score = 3.39). Respondents also considered pressure from administrators as an important factor in internationalization of accounting curricula. From the above results, it appears that formal pressures rather than theoretical considerations are driving the internationalization of accounting education. Other important incentives to internationalize accounting curricula are: funds for attending conferences, pressure from employers of graduates, promotion and tenure considerations, and research funds.

Table 10 shows a strong consensus among respondents on the obstacles to internationalization. Respondents rated overcrowded curricula and lack of faculty expertise in international topics as the two highest perceived obstacles to internationalization. These results are consistent with those found by AlNajjar and Gray's (1992) study of U.S. AACSB

Table 10. Incentives and Obstacles to Internationalize Accounting Curricula

*Incentives**	*Mean*	*Standard Deviation*
Accreditation Requirements	3.39	1.4
Pressure from School Administration	2.88	1.3
Funds for Attending Conferences	2.76	1.5
Pressure from Employers of Graduates	2.54	1.4
Promotions & Tenure Considerations	2.44	1.4
Research Funds	2.19	1.4
Teaching Load Reduction	1.86	1.3
Financial Compensation	1.69	1.1
*Obstacles***		
Overcrowded Curriculum	3.84	1.2
Lack of Faculty Expertise	3.23	1.3
Insufficient Faculty Interest	3.08	1.3
Insufficient Funds	2.82	1.4
Insufficient Market Demand	2.69	1.2
Insufficient Student Interest	2.57	1.2

Notes: *Measured on a 5 point scale: 1 "Not Important", 5 "Very Important."
**Measured on a 5 point scale: 1 "Not an Obstacle", 5 "Major Obstacle."

accredited schools, and Herremans and Wright's (1992) sampling of Canadian schools. Other obstacles to internationalizing accounting curricula, are the lack of faculty interest, funds, market demand, and student interest.

The problems of an overcrowded curricula will continue as long as schools approach accounting curricula revision from an incremental rather than from a zero-based approach (Radebaugh 1992). With the pressures to prepare accounting students for professional examinations (e.g., CPA examination) that typically have very little international accounting content, and the proliferation of domestic accounting standards, many accounting faculty feel that internationalization can only be achieved by sacrificing coverage of important material presently being taught in the accounting curriculum. Advocates argue that internationalization can only be effectively implemented by a complete reorientation of accounting curricula to include international education.

SUGGESTED METHODS TO INTEGRATE INTERNATIONAL ACCOUNTING TOPICS INTO THE CURRICULUM

The international dimension of accounting topics can be integrated into the accounting curriculum in several ways. This section discusses the possible methods that can be used in the integration approach and suggests some instructional materials for utilizing each method.

Use of Foreign Annual Reports

The use of foreign annual reports to integrate an international accounting dimension into the curriculum can be stimulating and exciting for students. Foreign annual reports provide "real life" examples and offer students opportunities to compare and contrast U.S. accounting practices with those of other countries. Foreign annual reports are especially useful in integrating an international dimension of accounting into financial accounting courses, in particular, intermediate and advanced accounting (Appendix A provides a list of suggested topics that can be internationalized in financial accounting courses). Foreign annual reports, however, offer limited opportunities to integrate the international dimensions of the auditing, tax, and managerial aspects of accounting.

Integration through the use of foreign annual reports can be accomplished by two strategies. One strategy is to utilize the foreign annual reports throughout a given course (e.g., intermediate or advanced accounting). Under this strategy, copies of foreign annual reports are distributed to students at the beginning of the school term. During the discussion of certain accounting topics (e.g., accounting for inventories, goodwill, deferred taxes, leases, etc.), the instructor refers students to the specific section of the foreign annual report(s) where the topic under discussion is presented. Comparing and contrasting the accounting treatment of a specific topic in the U.S. with other countries not only exposes students to accounting principles in other countries, but also reinforces the learning process of the topic being discussed. (Appendix B presents a list of foreign annual reports that the authors have found useful for integration purposes).

The second strategy in utilizing foreign annual reports is similar to the first strategy; however, it entails an out of class project where students analyze and discuss the different treatments of accounting principles in the U.S. and other countries. Under this strategy, early in the school term, the students are divided into groups of four to five students. Each group is provided with a foreign annual report and asked to prepare a two-part written project, due at the end of the term. In part one, the financial statements contained in the foreign annual reports are reconstructed in a format and terminology similar to financial statements prepared in the U.S. In the second part, each group describes and discusses the significant differences between U.S. GAAP and those applied in preparing the foreign financial statements. These projects are graded and returned to students. Again, under this approach the students are not only exposed to an international dimension of accounting but also learn from each other during the group discussions and deliberations on the U.S. GAAP and those applied in preparing the foreign financial statements. This strategy might offer an advantage over the first strategy, in that it does not take classroom time, thus avoiding one of the obstacles: overcrowded curriculum. The strategy selected to integrate an international accounting dimension will depend on preference and other considerations by the instructors.

Use of Case Studies

Case studies provide another means of integrating an international dimension of accounting into the curriculum. As discussed earlier, the use of foreign annual reports are very useful in integrating an international dimension of financial accounting topics but they offer limited opportunities to integrate the international dimensions of auditing, tax, and managerial aspects of accounting. The use of published case studies containing aspects of international tax, auditing, managerial, standard-setting processes, as well as financial accounting, offers a distinct advantage to instructors in other areas of accounting (e.g., tax, auditing, and managerial) in integrating an international dimension into the accounting curriculum. One source that the authors have found particularly useful is a recently published, international case study text (Schweikart, Roberts, and Gray, 1995—see references for complete citation). This text contains cases on international financial accounting and reporting, international accounting and financial statement analysis, managerial accounting for global business operations, international auditing, and international taxation. Each case contains several discussion points and questions. An approach that might be useful in utilizing cases to integrate an international dimension of accounting into the curriculum, would be similar to one discussed under the second strategy in using foreign annual reports, that is, grouping students and asking each group to prepare a group project in which the case is analyzed and the questions and discussion points raised in the case are answered. The written assignments would be completed out of class and turned-in for grading. Once again, this method does not take classroom time and exposes students to the international dimension of accounting.

Use of Published Articles

Another means of integrating an international dimension of accounting topics into the accounting curriculum, is the use of published articles that discuss various aspects of international accounting. The articles suggested here (see Appendix C), are broad in nature and provide an overview of topics such as international organizations involved in harmonizing accounting practices, the European Union, listing on foreign stock exchanges, and the problems and challenges faced in international capital markets due to diversity in accounting practices around the world. These articles may be assigned for out of class readings and may be discussed during the class. This method is more desirable in upper level classes such as advanced accounting and accounting theory courses.

The selection of a specific method to integrate an international dimension of accounting into the curriculum depends upon the instructor's preference, available time, the course being taught, and other constraints. The authors have utilized all of the above methods in the past and have received positive feedback from students.

SUMMARY AND CONCLUSIONS

This paper presents the results of a survey of 194 schools of business that offer undergraduate and/or graduate programs in accounting. The purpose of the study is to determine the extent of coverage of international accounting topics through the integration approach. The paper also suggests methods and instructional resources that can be used to add an international dimension into the accounting curriculum through an integration approach.

The findings reveal that the integration approach of internationalization is used more frequently in undergraduate programs (61%) compared to graduate programs (52%). The less frequent use of integration at the graduate level, might be explained by the fact that internationalization of the graduate accounting curriculum is more often accomplished through a separate course offering. Offering a separate course at the graduate level allows for in-depth analysis of selected topics for which students have acquired the basic academic preparation in their undergraduate program.

Results of this study indicate that financial accounting is the most frequently integrated area for both graduate and undergraduate programs. This finding was expected since more courses are offered in financial accounting than other areas. However, tax and auditing areas appear least integrated. This could be explained by the lack of resources and the nature of topics being discussed in these areas, i.e., they do not lend themselves easily to internationalization. The integrated lecture is the most popular method of integrating topics into other courses, although other instructional resource materials such as foreign annual reports, assigned articles, and cases are also used.

With increasing globalization, the pressure to internationalize accounting education will continue to rise. The experience of schools that have already internationalized their accounting curriculum through the integration approach provides a rich resource for schools currently involved in international accounting education as well as those planning on internationalizing their programs in the future.

APPENDIX A

Accounting Topics that can be Integrated into Financial Accounting Courses

1. Required Financial Statements
2. Format of Financial Statements

3. Application of Historical Cost in Preparation of Financial Statements
4. Accounting for Uncollectible Accounts
5. Reporting Contingent Losses
6. Accounting for Long-term Construction Contracts
7. Accounting for Inventories
8. Depreciation Accounting
9. Accounting for Research and Development Costs
10. Accounting for Goodwill and other Intangibles
11. Accounting for Long-term Debts and Amortization of Bond Discount and Premium
12. Accounting for Marketable Securities
13. Use of Equity Method for Investments of 20-50%
14. Accounting for Treasury Stock Transactions
15. Accounting for Deferred Taxes
16. Accounting for Leases
17. Accounting for Pensions
18. Segment Reporting
19. Consolidation of Both Domestic and Foreign Subsidiaries
20. Foreign Currency Translation
21. Treatments of Translation Gains and Losses
22. Reporting Minority Interest on Consolidated Income and Owners' Equity

APPENDIX B

Annual Reports and Addresses Where the Reports can be Obtained

Country	*Annual Report*	*Address Where Annual Reports can be Obtained*
Australia	Foster's Brewing Group Limited	Foster's Brewing Group Limited 1 Garden Street, South Yarra Victoria 3141 AUSTRALIA
Canada	Canadian Pacific Limited	Canadian Pacific Limited P.O. 6042, Station A Montreal Quebec H3C 3E4 CANADA
Finland	Nokia	Nokia Investor Relations 2300 Valley View Lane Suite 100 Irving, TX 75062
France	Renault	Regie Nationale des Usines Renault 34 quai du Point du Jour B.P. 103 92109 Boulongne-Billancourt Cedex FRANCE

(continued)

Appendix B. (Continued)

Country	Annual Report	Address Where Annual Reports can be Obtained
Germany	Daimler-Benz	Daimler-Benz AG, BPA Postfach 80 02 30 D-7000 Stuttgart 80 GERMANY
Italy	Fiat	Fiat S.P.A. Corso Marconi 10 Turin ITALY
Japan	Toyota	Toyota Motor Corporation 1 Toyota-cho, Toyota City Aichi Perfecture 471 JAPAN
Sweden	Volvo	Volvo Investor Relations 535 Madison Avenue New York, NY 10022
Switzerland	Nestle	Nestle S.A. Investor Relations Avenue Nestle 55 CH-1800 Vevey SWITZERLAND
The Netherlands	Philips	N.V. Philips' Gloeilampen-fabrieken Building VH-1 Groenewoudseweg 1 5621 BA Eindhoven THE NETHERLANDS
United Kingdom	Imperial Chemical	Imperial Chemical House Milibank, London SW1P 3JF UNITED KINGDOM

APPENDIX C

List of Articles in Integrating an International Dimension of Accounting

1. Beresford, D., 1990. "Internationalizaltion of Accounting Standards," *Accounting Horizons*, (March): 99-107.
2. Choi, F.D.S. and R.M. Levich, 1991. "Behavioral Effects of International Accounting Diversity," *Accounting Horizons*, (June): 1-13.
3. Duffy, D., 1994. "The Wooing of American Investors," *The Wall Street Journal*, (February 25): A-14.
4. Hora, J.A., R. H. Tondkar, and A. Adhikari, 1997. "International Accounting Standards in Capital Markets," *Journal of International Accounting Auditing & Taxation*, 6(2): 171-190.
5. O'Malley, S.F., 1992. "Accounting Across Borders," *Financial Executive*, (March/April): 28-31.

6. Radebaugh, L.H., 1993. "Daimler-Benz: First German Company on NYSE," *Accounting: A Newsletter for Educators*, Vol. 3, No. 1, (Fall): 7-8 (John Wiley & Sons).
7. Sutton, M.H., 1997. "Financial Reporting in U.S. Capital Markets: International Dimension," *Accounting Horizons*, (June): 96-102.

NOTES

1. The 1985-86 AACSB Accreditation Standards required that a "worldwide dimension" be incorporated into undergraduate business and accounting curricula. In 1991 (revised in 1993) these standards were modified to require that curricula include coverage of "global issues" (p.18).
2. The data for this paper is based on a comprehensive research study that was conducted to determine the status of international accounting education in the U.S. This paper addresses one aspect of that research, the use of the integration method in internationalizing the accounting curriculum.
3. We examined four intermediate accounting texts that were available to us for the coverage of international accounting topics. A list of the texts examined and the extent of their coverage of international accounting topics are as follows:
   (i) *Intermediate Accounting*, ninth edition, by Kieso, D.E. and J.J. Weygandt, (John Wiley & Sons, Inc., 1998). This book contains 107 marginal notes (referred to as "International Insight") on international accounting topics. This text also contains a two page synopsis on "Perspectives on International Standard Setting," by Arthur R.Wyatt.
   (ii) *Intermediate Accounting*, first edition, by Spiceland, J.D. and J.F. Sepe, (Irwin/McGraw-Hill, 1998). This text contains over 30 blocked segments (referred to as "Global Perspective") of about one-third of a page to one-half of a page on international accounting topics. This book also contains over a dozen small international cases as homework assignments.
   (iii) *Intermediate Accounting*, fourth edition, by Dyckman, T.R., R.F. Dukes, and C.J. Davis, (Irwin/McGraw-Hill, 1998). This text contains about 16 blocked segments (referred to as "Global View") of about one-third of a page to one-half of a page on international accounting topics at the end of some chapters. It also contains some questions on the international accounting topics as homework assignments.
   (iv) *Intermediate Accounting*, second edition, Hartman, B.P., R.M. Harper, J.A. Knoblett, and P.M. Reckers, (Southwestern Publishing, 1997). Of the 20 chapters in this text, 11 chapters have blocked segments on international accounting topics (referred to as "In Practice—International") of about one-fourth of a page to two and one-half pages long. This text also contains some homework assignments on the international accounting topics.

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Book Review Section

The book review section is interested in works published in any language, as long as they are comparative or international in character. The author or publisher of such works should furnish either book review editor with two (2) copies of the work, including information about its price and the address where readers may write for copies. Review will be assigned by the book review editors. No unsolicited reviews will be accepted. Suggestions of works that might be reviewed are welcomed.

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The International Journal of Accounting, Vol. 33, No. 4, pp. 509-509 ISSN: 0020-7063.

The International Journal of Accounting

Capsule Commentaries

During the last few years, the interest of the German accounting community in U.S. accounting has increased tremendously, only in part due to the U.S. listings of German corporations of which Daimler-Benz was the first in 1993. In February, the German Parliament passed a law allowing German listed companies to present their consolidated financial statements according to "internationally accepted standards." Although not explicitly mentioned in the law, those standards are regarded to be International Accounting Standards (IAS) and U.S. GAAP. This will give a new push to the internationalization of German accounting and will boost the interest in books dealing with U.S. accounting and IAS. The following commentaries will introduce five of the most current books on U.S. accounting in Germany. They should give some impression of the vast academic and practical interest in U.S. accounting at the moment in Germany.

In one of the next issues of the journal, some German books that cover IAS will be presented in this section.

The books can be classified into three different categories. The first three are published doctoral theses, the fourth is a handbook for practitioners, and the last is a reader.

Grundlagen der US-amerikanischen Rechnungslegung, *Henning Siebert (Köln: Verlag Dr. Otto Schmidt 1996), 527 pp.*

This thesis (University of Bonn) deals primarily with the institutional framework of financial reporting in the U.S. It explains the private-sector standard-setting process and its relation to the U.S. legal system. It deals especially with the SEC rules and their relationship to U.S. GAAP. In addition, the author devotes more than 200 pages to the treatment of important accounting issues under U.S. GAAP. He concludes his thesis with some hypotheses on how the approach embodied in U.S. accounting could influence German accounting. Quite a number of his hypotheses have become reality in the short time since his thesis was completed.

Grundlagen einer Bilanzrechtstheorie in den USA, *Andreas-Markus Kuhlewind (Frankfurt a. M. et al.: Peter Lang Verlag 1997), 298 pp.*

In his thesis (University of Munich), A. Kuhlewind makes an attempt to explain the conceptual background or theoretical approach of U.S. accounting and to compare it with its

The International Journal of Accounting, Vol. 33, No. 4, pp. 511-513 ISSN: 0020-7063.

German counterpart. He bases his analysis primarily on the FASBs Conceptual Framework, with its qualitative characteristics and principles, and examines in detail the U.S.-specific concept of income. This is a very German approach since the calculation of income traditionally has been the primary objective of financial accounting in Germany. In many examples, the author explains how U.S. accounting, which he perceives as being partly deductive and partly inductive, balances the conflicting characteristics of relevance and reliability.

Bilanzkulturssund Bilanzpolitik in den USA und in Deutschland, *Sebastian Heintges, 2nd ed. (Sternfels: Verlag Wissenschaft & Praxis 1997), 336 pp.*

S. Heintges has chosen in his thesis (University of Marburg) another perspective to explain financial reporting in the U.S. He investigates the possibilities and instruments of U.S. accounting policy, which means the deliberate influence on reported figures and information in financial statements, and compares those to what is practiced in Germany. He derives the main differences in accounting policy objectives and behavior from the different country-specific cultures. He comes to the conclusion that accounting policy in the U.S. is much more capital-market focused and more likely intended to increase income than in Germany.

Konzernabschlussnach US-GAAP, *Rudolph J. Niehus/ Alfred Thyll (Stuttgart: Schäffer Poeschel Verlag 1998), 449 pp.*

This handbook for practitioners deals primarily with special accounting issues and, in contrast to the three theses, contains considerable discussion on the subject of consolidation. For each issue it describes U.S. GAAP (including SEC norms) as well as the German rules. Additionally, it gives many practical examples extracted from the AICPAs *Accounting Trends and Techniques* of 1995 and 1996. The book is primarily descriptive and, in contrast to the others, less analytical. On the other hand, it is easy to read and helpful for resolving practical problems, although it does not prevent someone who seeks a special solution to a particular problem from looking it up in American GAAP Guides or Original Pronouncements.

US-Amerikanische Rechnungslegung, *edited by Wolfgang Ballwieser, 3rd edition (Stuttgart: Schäffer Poeschel Verlag 1998), 395 pp.*

This book is a reader containing articles on different accounting topics written by various authors, primarily German accounting academics. Among the topics covered are intangible assets, long-term contracts, consolidation, segment reporting, cash flow statements, and the reconciliation of German financial statements to U.S. GAAP. Apart from these more technical areas, some articles are more general, e.g., explaining the general accounting objectives and principles of U.S. accounting or considering how IAS and U.S. GAAP could influence German accounting practice through the internationalization process. This book gives a good (but partial) analytical insight into different aspects of U.S. accounting.

Axel Haller

The International
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Book Review

The Nature and Determinants of Disclosure Adequacy: An International Perspective, *by Ahmed Riahi-Belkaoui, Quorum Books, Westport, CT, USA,* 1997, 227 pp.

The book examines the determinants of accounting disclosure adequacy in a global environment. Academics, students, managers and practitioners interested in international accounting will find the book interesting and useful. Accounting policy makers concerned with harmonization of accounting standards across national boundaries may also find information contained in some chapters to be useful.

The book is divided into seven chapters. Its first chapter, which is the longest, develops a framework for discussing different determinants of accounting standards for the measurement and disclosure of financial information by firms in different counties. By using contingency approach to disclosure adequacy, the author identifies the following main determinants of accounting disclosures: culture, linguistic, political and civil factors, economic and demographic environments, and legal and tax system. In addition to discussing the nature of these determinants, the author also explains how these factors would influence the disclosure adequacy, which is defined in terms of "fairness" of disclosures.

The remaining six chapters are based on the findings of research studies conducted by the author at different times. These findings, which have appeared earlier in various accounting journals, are discussed and interpreted to support the contingency framework presented in chapter 1. Two chapters (chapters 2 and 3) are devoted to the discussion of the impact of economic environments on financial disclosures, and one chapter each discusses the influence of political/civil factors (chapter 6) and cultural environment (chapter 7) on these disclosures. The remaining two chapters (chapters 4 and 5) discuss the role of managers, academics, professionals, and human development in determining the disclosure adequacy. Determinants of linguistic and legal and tax systems have not received any attention in the book beyond chapter 1. Omission of their discussion is probably because the author has not conducted any empirical study to examine their impact on disclosure adequacy. Contents of chapters 2 through 7 are briefly discussed below to provide readers with an overall view of empirical findings presented in the book.

Chapter 2 presents the results of an exploratory empirical study on the impact of macroeconomic factors on accounting disclosures, and it also shows how accounting disclosures impact economic growth. The research findings suggest that economic growth is positively associated with gross domestic investment as a percentage of GDP, terms of trade, and information adequacy. It is negatively associated with the inflation rate and total expenditures on health and education as a percentage of GDP. On the basis of these findings, the author concludes that economic growth is positively influenced by disclosure adequacy, as

 ISSN: 0020-7063.

measured by the accounting disclosure requirements of stock exchange of countries included in the study.

Discussion of the association between economic factors and financial disclosures in continued in Chapter 3. This chapter discusses the results of an empirical study which examines the association between disclosure adequacy and country risk and return for a sample of firms from European countries. The study is conducted to test the hypothesis whether voluntary accounting disclosures by European firms are aimed at controlling the conflict arising out of favorable and unfavorable signals for investment in a particular country. The results indicate that European firms adjust their strategies for disclosure of financial information to return and risk signals in their respective countries. Firms in countries with low return and high risk are found to be associated with expanded disclosures.

Chapter 4 discusses the research findings of a study conducted by the author on the association of disclosure adequacy with managerial, academic and professional influences. Disclosure adequacy is measured by a disclosure index based on 107 items. The results indicate that all three variables of managerial, academic and professional influences are positively related to actual disclosure adequacy. On the basis of these findings, the author concludes that the supportive role of academicians, managers and professional accountants is crucial to improve the disclosure adequacy in a country. Reinforcement of institutions and enactment of appropriate laws in developing countries is especially emphasized to enable academicians, managers and professionals to play an active and constructive role in accounting development.

The association between human development and disclosure adequacy is explained in chapter 5. It has been argued that economic growth and human development in a country create a favorable climate for accounting development. A greater demand for accounting information by stock exchanges can be expected when there is higher economic growth and human development in a country. These results are interpreted to suggest that harmonization efforts for accounting standards and disclosures would be more successful in countries that have a similar profile for economic growth and human development.

Chapter 6 discusses two empirical studies on the impact of economic, political and civil indicators on disclosure adequacy. The first study examines the impact of the economic and political environment on international differences in reporting and disclosure adequacy. The results of this study are not significant. The second study examines the impact of political, financial and economic risks on stock exchange disclosure requirements. The results of this study suggest that the level of disclosure requirements is positively associated with the political and financial environments in a country.

The last chapter examines how cultural factors impact self-regulation by the profession and also the disclosure requirements of stock exchanges. This examination is based on Hofstede's four cultural factors: power distance, uncertainty avoidance, individualism and masculinity. The results indicate that the association between power distance and self-regulation is not significant, but is significant between self-regulation and the remaining three cultural factors. Uncertainty avoidance and individualism are negatively associated with self-regulation and the masculinity factor is positively associated. The disclosure requirements of stock exchanges are found to be positively associated with power distance and individualism but negatively associated with uncertainty avoidance. The association of the masculinity factor with the disclosure requirements of stock exchanges is found to be insignificant.

The book concludes that the disclosure adequacy level is influenced by a country's economic growth, risk and return, development of managerial, academic and professional personnel, political and civil indicators, and different cultural dimensions. The author's claim that "The overall thesis of the book is confirmed" (p. xii) would have been justified if a comprehensive study had been conducted to obtain empirical evidence on the contingency framework presented in chapter 1. In the absence of a systematic study of different determinants in interaction with one another, the author's claim is not fully substantiated.

Despite the lack of evidence based on a comprehensive study, the book is a useful source of information on research findings relating to different determinants of financial disclosures in a global environment. In addition to providing valuable information to researchers and students of international accounting, it provides information that policy makers may also find useful for harmonization of international accounting standards. The book will provide inspiration to international accounting researchers to conduct further research in order to have a better understanding of the impact of different determinants on the development of standards for the measurement and disclosure of financial information in a global economy.

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New Brunswick, NJ USA

Comparative Studies in Accounting Regulation in Europe, *edited by John Flower and Chris Lefebvre, Acco, Leuven/Amersfoort,* 1997, BEF 1,750 (postage included), 431 pages.

This book presents a portion of the research output of the European Universities Accounting Network, founded in 1993, and coordinated by the Centre for Research in European Accounting (CREA), attached to the European Institute for Advanced Studies in Management (EIASM), in Brussels. The network received financial support from the European Union's Human Capital and Mobility Programme. Under the terms of its contract with the European Commission, the network had two principal objectives: (1) to undertake research on the national systems for regulating financial reporting in the countries represented in the network, (2) to contribute to the training and career development of 16 young researchers by offering them the opportunity to conduct research in a university in another Member State.

What makes this book unique is that all of the research studies it contains deal with aspects of the national systems for the regulation of financial reporting in various states of the European Union. Of particular interest is that the studies focus on the system for setting the rules rather than the content of the rules.

In the first chapter, John Flower (director of CREA) presents a general introduction to the topic of the regulation of financial reporting. In the following eight chapters, the authors deal with country comparisons. In chapter 2 Lieve Lin-Van Nuffel of Catholic University of Leuven, Flanders, and Laury Bollen, of University of Limburg, Maastricht, show that the differences between the accounting systems of Belgium and the Netherlands are very significant and that an appreciation of the causes of these differences (which are deeply rooted in history and "culture") leads to a better understanding of the present system in both countries. In chapter 3, Simon Quinn, of University College Cork, and Ole

Sorensen, of the Copenhagen Business School, present a comparative analysis of the systems in Denmark and Ireland, two countries which, in the authors' opinion, have a great deal in common.

Chapters 4 and 5 each present the reflections of a researcher from the United Kingdom on certain aspects of the country he visited. Michael Power, of the London School of Economics, studied the role of academics in the accounting policy process in Germany and compared it with that of England, while David Neal, of the University of Wales, Bangor, was interested in "locating" accounting regulation in Greece, which means placing it in the context both of Greek history and of academic theory.

Chapters 6–9 deal with various aspects of the France-Italy-Spain triangle: chapter 6 by Evelyne Lande, of the Conservatoire National des Arts et Métiers, Paris, on France and Spain; chapter 7 by Araceli Mora, of the University of Valencia, on Italy and Spain; chapter 8 by Bernard Olivero, of the University of Nice, on Italy; and, finally, chapter 9 by Roberto Di Pietra, of the University of Siena, on France-Italy-Spain.

The following three chapters appear to me as different from the previous ones, and perhaps more interesting, because they cover all of the 11 EU countries represented in the network. All three of the chapters were written by Gabi Ebbers, of the University of Wales, Bangor, who investigated the rules relating to the three areas of reporting practice which all the network members have researched: revaluation of assets (chapter 10), foreign currency translation (chapter 11), and definition of subsidiary company in determining the scope of consolidated accounts (chapter 12). These chapters are remarkable for their wide range (covering 11 countries), their depth (based on the author's own work and in part on the research reports of the young researchers in the network coupled with the insights provided by experienced and respected academics from these countries), and their detail (obtained from the published accounts of over 200 European multinational companies).

Finally, in chapter 13, John Flower presents a synthesis of the network's research. His text is based on a general model of a national regulatory system which includes four elements: (a) the state which promulgates laws, decrees and judicial decisions, (b) standard-setting bodies which pronounce standards, (c) other bodies which issue recommendations, and (d) individuals which make interpretations. Then, for each of these elements, the author gives detailed comparisons for the 11 countries. For instance, a table includes the membership composition of the national standard-setting bodies according to areas represented: government, the audit profession, users, the stock exchange, preparers, and individuals. The influence of the state and other interested parties on the rules for both individual company accounts and consolidated accounts is also developed. All of the tables included in this chapter are, in my opinion, very interesting, as they give the reader a deep understanding of the origins of the differences in accounting regulation in Europe.

The primary audience for the book is academic researchers, as it deals with important issues in accounting regulation. It could also be used as a textbook for an international accounting course, since most of the papers describe in a quite detailed way the accounting regulation in the surveyed countries.

The major strength of the book arises from the fact that, as John Flower writes, "the young academics were able to bring a fresh approach to their analysis, both because of their youth and because they came from another country, already equipped with a good knowledge of that country's system" (p. 43). However, the book does have a few limitations. As with any collection of papers, some are stronger than others in their methodology and analysis. First of all, one might ask about the choice of the countries in the numerous comparisons. If the relationship between Belgium and the Netherlands seems to be obvious, namely because of the historical and cultural common origin of these countries, the link between Ireland and Denmark is, despite the authors' effort, difficult to accept. Moreover, in my opinion, some chapters are too descriptive (for instance, when they are devoted to only one country) or include ideas that are repeated several times (in the four chapters dealing with France, Italy and Spain). As is usually the case in comparative international accounting, a comparison by topic (as in chapters 10–12) can be much more interesting than a comparison by country.

Despite this concern, it is my opinion that this book is well-written and understandable, with considerable use of graphs and tables.

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The Regulation of Financial Reporting in the Nordic Countries *by John Flower (editor), CE Fritzes AB, Stockholm,* 1994, 285 pp., 780 SEK (approx. $100).

This book is the collaborative product of seven researchers under the auspices of the Centre for Research in European Accounting (CREA), which was established in 1991. The major aim of CREA, which is reflected in the book under review, is to promote collective work by a team of researchers coming from several countries and thus to support the European Union (formerly the Economic Community) with research findings to guide its policies. There is broad agreement in Europe that in order to harmonize financial accounting among countries it is necessary to gain a deep understanding of each country's accounting system, i.e., the contextual framework in which it is embodied. This deeper cultural understanding can best be provided by researchers who have been raised and educated in the country-specific environment. This precept underlies the work of CREA, and its first publication deals with the Nordic countries.

The major reason why CREA chose the Nordic countries for its first project is that those countries, apart from Denmark which had joined the EC in 1973, were undertaking the major task of harmonizing with the EC as a result of their decision in 1992 to join the European Economic Area. To deal with the Nordic countries in a comparative research study might be seen, at the first glance, as an easy task, due to their cultural closeness, but this perception is deceptive. Actually, people in the Nordic countries are trained more to understand larger countries, like, for example Germany, France, the U.K. and the U.S., than one another. One also has to keep in mind that John Flower, the director of CREA, a Briton and not a Scandinavian, was the head of the project and editor of the book.

The introductory chapter of the book has three sections. Section 1 describes the goals of EC harmonization and the role played by accounting in this context. Section 2 presents a model of the system for the regulation of financial reporting which is general enough to work as a starting point for a comparative study. The final section provides some background statistical data about the Nordic countries, which is useful, particularly since it can be assumed that, as small countries, they are not as well known by readers. Generally, the introductory chapter is interesting and well written: however, it would have benefited from a deeper comparison of the thinking and demands of the EC with the accounting concepts of the Nordic countries at that time. Additionally, it can be questioned why the author of the first chapter chose examples of disclosure issues and not measurement issues to explain that unfair competition in the area of accounting within the EC is caused by uninformative (not comparable) accounts, especially since measurement issues have been the most difficult to harmonize between European countries (particularly those with a link to taxation). (See, for example, Biener 1994).

The country chapters follow in alphabetical order, probably to escape the delicate matter of which country should come first. But this order can be questioned since the authors make references to Sweden as influential in their own countries' accounting, for Sweden has the longest tradition of both legislation and standard setting, yet Sweden is presented last! The different country chapters follow a similar structure, with sections on background, history, rule-making bodies, analysis, and specific instances of rules. There are some small differences, though. Generally, the differences are justified by the specifics within the country, and this is fair enough; but sometimes there are differences that can be explained only by lack of coordination in the creation of the book. One interesting difference is that there is no subsection title "the State" in the chapter for Denmark, as is in all of the other country chapters; besides, this concept has been interpreted as the "country" by the Icelandic author and as the "government" by the writers of the other chapters. There is little written about the political system in Denmark but much more in the other chapters. My own reflection as a "Scandinavian" (whatever that is) is that the role of the state is generally underestimated in Denmark and overestimated in Sweden and Finland, which is also reflected in this book.

A striking characteristic of the Nordic countries and their accounting is the cooperation and consensus-seeking between many different stakeholder groups, and between the public and the private sectors. This complexity is fully dealt with in this book. Because accounting development is so complex there is room for retrospective interpretation discrepancies. This becomes obvious in this book concerning the classification of the legal systems in different countries. The Danish writer interprets the Danish legal system as "framed in accordance with the English legal tradition" (p 38), while the Swedes write "Accounting regulation through laws is a continuation of a continental European tradition" (p 199). Because of the comparative approach adopted by the book this can give the reader the wrong idea of great diversity between the Nordic countries. Actually, the legal systems in the Nordic countries are close and would, according to the Danish writer Nielsen, best be described as a subgroup of its own (within the Civil Law group) (Nielsen, 1995). Another example of divergent interpretation (or authors' different "constructions of reality") can be observed in the treatment of the institutions that have most influenced accounting development in the different countries. More discussions between the authors in the process of developing the research project might possibly have narrowed the interpretive gap.

In trying to analyze and compare the situation in the covered countries, the concluding chapter has a very honorable objective, but it falls victim to the danger of departing from reality, because frequently the analyses venture into the realm of speculation. Often a meaning is constructed where I can see none. This final chapter would have been much more valuable with a more humble descriptive approach, since the chosen analytical approach would have needed much more work to be accurate.

In some respects it becomes obvious that the book was written during quite a short time period, as suggested, among other things, by the considerable amount of spelling mistakes and references to tables and figures for which the reader searches in vain.

The intended readership mentioned in the preface is the EU Commission in its work, but, of course, many more would benefit from reading this book, such as those who are interested in international accounting and those who are interested in learning about accounting in its context. The book is also particularly inspirational for those who are looking for research questions. For example, why do the Danes draw quite different conclusions about EC harmonization concerning accounting and taxation than do the Finns or Swedes? How can it be explained that IASC influence has occurred much later in Sweden than in Denmark? When it comes to other phenomena, such as social accounting and inflation accounting models, these were introduced simultaneously in the Scandinavian countries: is that because they are global fashion movements? Another topic that needs more research is how influential theory is on accounting practice. This book demonstrates that, in both Denmark and Finland, it has had a great influence. Another interesting question is: Who is actually leading accounting change?

Therefore, as a source and basis of future research the book is still of interest even though it is already four years old. It conveys to the reader a deeper understanding of the way of thinking in accounting matters and how this has influenced accounting solutions. Despite the fact that rules have already changed since the research was done for this comparative project, the book is still valuable because it deals not just with specifics (procedures) but primarily with concepts, which have not changed materially so far. As to the cooperative project, I am not as enthusiastic. What we have learned so far in Europe is to let each one talk on his or her own premises, the next step being that we learn also to listen to each other more carefully.

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The IASC-U.S. Comparison Project: A Report on the Similarities and Differences between IASC Standards and U.S. GAAP, *edited by Carrie Bloomer (based on a study undertaken by the FASB staff), Financial Accounting Standards Board, Norwalk, Connecticut, 1996, 426 pages.*

International accounting harmonisation has been debated for decades: the only difference is that it may now become a reality. Not only is there general agreement that the international capital markets need comparability in international financial reporting for their efficient operation, but also there is agreement about how this might be achieved in the short-term. Perhaps more surprising, though, is that it is now also widely accepted that comparability can be achieved outside a U.S. GAAP framework.

One of the most significant initiatives to be undertaken in the field of international accounting for many years has been what is now known as the IOSCO Agreement. In 1995 the International Accounting Standards Committee (IASC) reached an agreement with the International Organization of Securities Commissions (IOSCO) that, provided the IASC could complete a core set of upgraded standards to IOSCO's satisfaction by 1999, IOSCO would endorse IASC standards with a view to having them accepted as a sufficient body of accounting rules for multinational companies to use for the purposes of cross-border securities issues and listings. This already demanding timetable was subsequently accelerated, so that the IASC's present target is to complete the revision of the core standards by November 1998.

Although the final outcome of the Agreement cannot be predicted with certainty, it does raise the stakes considerably for domestic standard setters. If an accepted international set of standards does emerge it will inevitably put domestic standards under considerable strain. This may be felt particularly keenly in the U.S., where foreign registrants are presently required to file accounts reconciled to U.S. GAAP. If this regime were relaxed so as to allow IASC rules to be used instead, the FASB and the SEC might experience considerable pressure from U.S. domestic companies who might be understandably reluctant to comply with U.S. standards that they perceive to be more demanding.

Such an attitude is likely to have been reinforced by this book that claims to have identified 255 differences between U.S. GAAP and IASC standards. This, in turn, has led many observers to believe that the SEC is unlikely to allow IOSCO to endorse IASC standards unconditionally unless they correspond closely to existing U.S. standards. However, the obvious response to the FASB study is: how many of the differences actually matter, particularly given the fact that most of the progressive and innovative thinking in accounting is coming from outside the U.S.?

In his Foreword to the book, the FASB's Director of Research and Technical Studies states that the study "was undertaken in the spirit of harmonization and was guided by the belief that an enhanced understanding of the differences between standards issued by the International Accounting Standards Committee (IASC) and U.S. generally accepted accounting principles (GAAP) is necessary to guide future efforts toward greater comparability of accounting standards and financial reporting worldwide". It is not clear where this belief comes from, or who holds it apart from FASB themselves. However, as an instrument for the promotion of harmonization and common understanding the book has fallen well short of the mark.

To describe the book as pejorative would be an understatement. In general terms, the book provides detailed coverage of what the authors perceive to be omissions/deficiencies in IAS, whilst often being less critical of relatively less detailed or robust requirements in U.S. GAAP. For example, the book states (on page 133) that "IAS 2 provides extensive guidance on the nature of costs appropriately included in inventory. In the United States, that type of guidance is usually found in cost accounting textbooks." So does this make U.S. GAAP all right? If an IAS were to be as unspecified on a matter such as this, the book would most likely have been critical of it. Given that companies have the free choice of applying FIFO, LIFO or the weighted average cost assumptions to inventory, the idea that companies will ever account for similar transactions in similar ways is pure illusion. The same applies to the depreciation of long-lived assets, where all that U.S. GAAP requires in the selection of an amortization method is that the allocation should be "systematic and rational". So here we have what are often the two most material items in the balance sheets of companies (inventory and long-lived assets) being the subject of measurement rules which allow a free choice of methods, each giving wildly differing results. However, the question is: does it matter? Harmonization is not about uniformity: it is about consistent, clear and transparent reporting within a generally accepted framework of rules that are rigorously applied, audited and regulated.

The book also glosses over those areas of GAAP where IAS is more advanced. In particular, I refer to the area of business combinations. The book states (on page 369) that "Control of a subsidiary is the basis for consolidated financial statements under both IAS 27 ... and U.S. GAAP." This statement is simply not true – as later acknowledged – and reflects a fundamental misunderstanding of the notion of control under IAS. The book footnotes the fact that "The FASB is currently reconsidering the issue of consolidation policies and procedures as part of its major agenda project on consolidations" – as if this somehow mitigates existing shortcomings. The book also, in my view, understates the effects on comparability of the considerable latitude currently afforded under U.S. GAAP to companies applying the pooling-of-interests method to business combinations.

Similarly, in the area of lease accounting, the book would have uninformed readers believe that FASB Statement 13 is a rigorous standard which will give much more robust results than is the case with IAS 17. Of course, anyone with practical experience with both systems will know that in reality the reverse is probably true.

It therefore seems that in writing the book the authors have adopted the old adage which is reputedly applied in the fur trade of "never mind the quality, feel the width". There are no prizes for guessing that when it comes to detail and volume, U.S. GAAP is without equal. However, it did not need the FASB study to prove this. More importantly, though, the book seems to miss completely the point about comparability, harmonization and global accounting standards.

In their recently published study on global investing,[1] Morgan Stanley Dean Witter posed the question "How close are IAS and U.S. GAAP?". Perhaps surprisingly to many they gave the following answer: "The answer depends on what benchmark you use; spelling out all the differences would require a textbook. FASB has identified 255 differences, although many investors would find most of them meaningless. For reflecting economic substance in most industries, IAS is easily of comparable quality to U.S. GAAP, if auditors do their jobs. Yet as a rulebook, IAS is definitely less detailed than U.S. GAAP."

This answer highlights a fundamental philosophical difference in approach to accounting harmonization between the U.S. and Europe and which seems to have been overlooked by FASB in preparing this book. It seems clear that the present U.S. approach to accounting harmonization indicates a desire for all companies participating in the same capital markets to provide users with uniform information based on uniform rules.

Conversely, Europeans, for example, would argue that whilst there may be perceived benefits of international standardization of accounting principles based on a system of uniform reporting, it also has its pitfalls. Essentially, these are that uniform financial reporting may delude the unsophisticated into thinking that genuine harmonization has been achieved, when in fact some differences may be healthy because they emphasize real underlying commercial differences.

This is because financial reporting is, to a large extent, a product of the environment in which the reporting entity operates. For one thing, it is difficult to imagine uniformity in financial reporting without uniformity in taxation systems, since taxation considerations have considerable influence over management decisions. Similarly, political, cultural and environmental considerations are all important components of the diversity of international accounting. Any attempt to standardize international financial reporting on the basis of some uniform system will result in an over-simplification of the complexities underlying the financial statements concerned, and will create a false impression of harmonization. In other words, if reporting entities are operating in completely different environments, and are being managed, taxed and regulated on completely different bases, then the effect of uniform reporting might mislead users by treating unlike items as if they were alike.

In contrast to the U.S. preference for uniform reporting, the European approach is based on the notions of equivalence and mutual recognition. Equivalence means being of equal value; that is, the co-existence of two systems of financial reporting which produce similar but equally relevant and reliable information for use by the capital markets and other users. Equivalence also requires a number of common ingredients. These include: transparency, due process, quality standards and, above all, proper independent regulation of the capital markets.

Moreover, equivalence demands from both sides a willingness to sacrifice and compromise. This means that, in order to achieve the convergence of the U.S. and European systems of reporting under the IASC umbrella, Europe will have both to compromise on some of its existing practices and embrace a common system of securities regulation. Similarly, IOSCO will have to be persuaded that the accommodation of different, though equally valid, reporting systems is appropriate. This means that IOSCO will have to weigh up the need to embrace a system based on the principle of equivalence instead of uniformity against the practical reality that absolute comparability in international reporting based on a uniform system is not attainable in the foreseeable future.

Individual European countries have also demonstrated their willingness to compromise. For example, in Germany legislation has been passed to the effect that "internationally accepted accounting principles" may be used in the consolidated financial statements of listed companies instead of the national law. France and Italy have passed similar legislation, and it is likely that other European countries will follow suit.

For Europe, these are revolutionary changes. More importantly, though, they demonstrate not only Europe's willingness to compromise, but also how Europe as a whole has become a much more active player in the harmonization debate. Prior to the IOSCO agreement, there was always the danger that Europe's capital markets would fragment and thereby drive individual countries and companies into ad hoc alliances with the U.S. and other international capital markets. However, as the balance of power in the international harmonization debate moves away from U.S. dominance based on uniformity towards the European system of equivalence and mutual recognition this now seems much less likely to happen.

Moreover, with European Monetary Union coming in less than a year, the capital markets in Europe will inevitably come much closer together and be able to provide a much more meaningful counter-balance to the U.S. capital markets. One can then envisage the world's very largest companies being able to have more of their capital needs satisfied in Europe at the same cost of capital as the U.S.

It seems that the FASB is working on an updated version of this book, and is even considering publishing it in loose-leaf form. My view is that their energies could better be spent on other things.

NOTE

1. Morgan Stanley Dean Witter, *Apples to Apples. Overcoming Accounting Differences: A Stock-picker's Guide to the Numbers that Count*, February 1998.

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[EDITORS' NOTE: Allister Wilson is a Partner and Director of International Accounting the U.K. firm of Ernst & Young. He serves as technical advisor to the European Commission in the field of Financial Information and Accounting Standards. In this capacity, he attends all meetings of the IASC Board as an observer member.]

Accounting in Transition: The Implications of Political and Economic Reform in Central Europe, *edited by Neil Garrod and Stuart McLeay, Routledge, London, 1996, 166 pp.* £50.

Looking back over the last ten years, there is no doubt that the fall of communism and the concomitant desire to Westernize (originally to make capitalistic) business, finance and accounting systems caught most accounting researchers on the hop. With honorable exceptions, such as Derek Bailey and Maureen Berry in one direction, and Alicja Jaruga in the other, there was an accounting iron curtain of disinterest and ignorance. The Nair and Frank (1980) and Nobes (1983) classifications ignore the entire state planning syndrome.

The trials and tribulations of "westernizing" Central and Eastern European accounting are part of an ongoing saga of the process of paradigm change which cries out for longitudinal research attention, and is generally not receiving it. Meanwhile, *Accounting in Transition* generally seeks to tell Westerners what is going on in six "Central European" countries, i.e., Lithuania, Poland, the Czech and Slovak Republics, Hungary and Slovenia.

When starting with a tabula rasa, almost anything is helpful, even purely descriptive papers, although to describe something to an outsider requires a cross-cultural understanding not always present. There are no such problems here, as these papers are written by experts in the field, with local and Western co-authorship. Nevertheless, the bulk of the (rather slim) volume, the country chapters numbered 4 to 8, contains essentially descriptive studies of developments and the state of play in the country concerned. These are good of their type. All have a proper historical and institutional context, and the regulatory detail with its often idiosyncratic mixture of rapid advance and apparent incompleteness is generally explained and rationalized. To give one example, the careful reader would not be surprised by either of the following two sentences from the chapter on Lithuania (p.51):

> "The Act on the Principles of Accounting 1992 (Article 13) provides that the public availability of financial statements 'shall be established by the Government of the Republic of Lithuania.' No action has been taken."

The first three chapters attempt a more general approach. Chapter 3 by Renata Sochacka (her name is misspelled on p. 28, the opening page of the chapter) and Jean-Louis Malo adopts a systems perspective to the change process. The first part of their paper considers operating, information and decision sub-systems in the context of the objective of "accountability," concluding—not surprisingly—that the sub-systems are interrelated. This is then applied to the creation of the Polish Securities Commission (to which Sochacka was seconded for several years). The conclusion is again unsurprising (p. 38):

> "The key lesson seems to be that simply to change accounting methods is not enough when the basic objectives of the system are no longer relevant and must be altered."

However, the writing is informed and authoritative.

The second chapter is a reprint, not updated, of a previously published paper by Jaruga (1990). This is a fascinating little piece of history, doubtless a shaft of light in its time, telling it like it was with a real sense of overview and understanding. The paper essentially outlines the key features of accounting as it used to be in "Socialist countries" and summarizes some "controversial issues" as of the late 1980s.

Chapter 1 is an introductory piece by the editors. They discuss a number of key issues, making two essential points. These are, first, that local factors remain of paramount importance in the process of accounting change. For example, ministry of finance officials who have been in absolute control for 40 years, when charged with devising and overseeing a new system, are not likely to give away all control over the process. The second point made, correctly, is that events in these countries will affect accounting development throughout Europe, and indeed beyond.

A major problem in books like this one is that of timeliness. I write in the summer of 1998 about a collection of papers published in 1996, in which it is perfectly obvious that nothing has been updated since 1994. This is a very fast-moving field. The *European Accounting Guide* (Alexander and Archer, 1995, 1998), for example, shares some country coverage (and some authors) with the text under review. The third 1998 edition has involved major rewrites compared with the second 1995 version.

The perils are well shown in that even Western situations can change radically. We read that (p. 4):

> "...it should be recalled that financial depth in Germany has provided the kind of protection from externalities which is not now available in central Europe. For instance,...large German companies have been able to sidestep the influence of international capital markets...."

Tell that to Daimler-Benz and Deutsche Telekom.

The editors state in their preface that the book

> "should prove useful to all readers interested in international accounting who wish to learn more about the nature of the changes which have occurred in central Europe and the problems which have arisen."

This relatively modest claim is certainly justified. There is much of interest, though for 160 pages the book is expensive. But be quick. A study of history is important for investigating processes of accounting change. But history this book already is.

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ISSN: 0020-7063

JAI PRESS INC.
100 Prospect Street
Stamford, Connecticut 06901-1640
(Address Service Requested)

The International Journal of Accounting

Volume 33 • Number 5 • 1998
(Index Issue)

blished by
JAI Press Inc.
Stamford, Connecticut London, England

:
nter for International Education and Research in Accounting,
iversity of Illinois at Urbana–Champaign

Name of publication: **THE INTERNATIONAL JOURNAL OF ACCOUNTING** (ISSN:0020-7063)
Issue: Volume 33/Number 5/1998 (Index Issue)
Frequency: Published Quarterly
Office of publication: 100 Prospect Street
Stamford, Connecticut 06901-1640.

Subscription rates (postage included):

Institutions: United States $250.00
Foreign Surface Mail $275.00
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POSTMASTER send address changes to:

Subscription Dept.: 100 Prospect Street, Stamford, CT 06901-1640.
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Back Issues: Information about availability and prices of back issues starting with Volume 31, Number 1 may be obtained from the publisher's order department (address above). Prior issues, please contact the editorial office.

Claims: Claims for undelivered copies must be made no later than three months after publication. The publisher will supply missing copies when losses have been sustained in transit and when the reserve stock will permit.

The International Journal of Accounting

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Volume 33 • Number 5 • 1998

Published by
JAI Press Inc.
Greenwich, Connecticut London, England

For:
Center for International Education and Research in Accounting, University of Illinois at Urbana–Champaign

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THE INTERNATIONAL JOURNAL OF ACCOUNTING

VOLUME 33 NUMBER 5 1998

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The International Journal of Accounting

Accounting Diversity and Firm Valuation

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Key Words: Accounting diversity, Valuation, International, Clean surplus, Conservatism

Abstract: *We examine accounting numbers and stock prices across three countries: Germany, Norway, and the United Kingdom (UK). The accounting systems in the three countries differ in faithfulness to clean surplus accounting and in conservatism. We address three questions. First, are there systematic differences across countries in the value relevance of accounting? Second, are there systematic differences in the incremental and relative value relevance of book values and earnings per share (EPS) across the countries? Third, do future earnings realizations (proxies for expected earnings) explain current stock prices? We find that accounting book value and EPS are significantly related to current stock prices across all three countries. German accounting numbers have the lowest relation with stock prices ($R^2 \approx 40\%$) and UK accounting numbers the highest ($R^2 \approx 70\%$), while Norwegian accounting numbers are in between ($R^2 \approx 60\%$). Second, the incremental and relative explanatory power of book value and of EPS differs across time and across countries. Book values explain more than earnings in Germany and Norway, but less in the UK. Finally, future income realizations explain little about market prices not already explained by current book value and EPS.*

Diversity in international accounting practice is the subject of much attention. Such diversity makes reading foreign financial statements more difficult and may affect firms and capital markets. The International Accounting Standards Committee (IASC), the International Organization of Securities Commissions, (IOSCO) as well as the European Union have both devoted considerable effort to standardization or harmonization of accounting practices across countries. There are many claims by investment professionals that accounting differences may impede international capital flows (Choi and Levich, 1991). The limited existing evidence is based primarily on opinion and on attitude surveys. This study examines the relation between accounting numbers and firm market values across three countries with very different accounting practices. The analysis follows a model formally developed by Ohlson (1990, 1991, and 1995).

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The International Journal of Accounting, Vol. 33, No. 5, pp. 529-567 **ISSN: 0020-7063.**

This model was termed the *Edwards-Bell-Ohlson Model* (EBO) by Bernard (1994) and has also been called the *Residual Earnings Model* (Frankel and Lee, 1996 and Lee, 1996). The model expresses a concept dating back at least to Edwards and Bell (1961): firm value is a function of firm book value and future earnings. A key aspect of the model is that its valuation accuracy does not depend on a particular set of "good" accounting procedures. In fact, the only requirement on accounting procedures is that of *clean surplus accounting*. That is, book value of equity changes only with income or loss and net capital investments and withdrawals (dividends) by owners.

Practical applications of the model require only four inputs: (1) the current book value of the firm, (2) the expected future accounting income, (3) the expected net dividends, and (4) the equity cost of capital. These factors can usually be estimated from available data. Accounting records provide book values, many financial analysts forecast future earnings, dividend pay-out policies are relatively stable, and the Capital Asset Pricing Model (CAPM) can be used to estimate the cost of capital. Hence, the factors determining value are more amenable to estimation than are the future dividend amounts required to estimate value under traditional dividend discount models.

The model expresses firm value as a function of book value and expected future residual earnings over an infinite horizon. Estimates based on shorter horizons have proved relatively robust in estimating value (Bernard, 1995). Over an infinite horizon *clean surplus accounting* provides a complete offset between current biases in earnings and book values and the effect of these biases on future residual earnings. Over finite horizons, however, the effect of accounting bias on future residual earnings becomes more complex. Feltham and Ohlson (1995) and Lundholm (1995) explore the effects of bias in accounting on the EBO model. In this study, we look across countries at the effects of bias (conservatism) and violations of clean surplus accounting.

Across countries accounting systems vary in their faithfulness to clean surplus accounting and in the extent to which they exhibit bias (conservatism). Hence, it is possible that accounting values from some countries may provide better estimates of firm value than accounting values from other countries. In this study we examine the accounting systems in three European countries to assess whether they differ in their value relevance under the Residual Earnings model. The countries selected, Germany, Norway, and the United Kingdom (UK), differ in the extent to which their accounting is conservative and in their adherence to clean surplus accounting. Therefore, the usefulness of accounting for firm valuation may differ across countries as well. Evidence concerning the value relevance of accounting numbers from different accounting systems would be of value in the current debate over international accounting standards and practices.

We find book value and earnings are positively and significantly related to current stock prices across all three countries. The accounting numbers for German firms have the lowest relation with stock prices (R^2 about 40%) compared to Norwegian and United Kingdom firms. United Kingdom accounting numbers have the highest relation with stock prices (R^2 about 70%) with the explanatory power of Norwegian accounting numbers in between (R^2 about 60%). However, the incremental and relative explanatory power for book value and for earnings differs across time and across the three countries. Book values explain more than earnings in Germany and Norway, but less in the UK. Earnings have little incremental information in Norway. Finally, income realizations for future years have little relation to current stock prices. The increment is so small that we conclude future earnings explain little about market prices not already explained by current book value and income.

The next section of the paper provides an overview of the residual earnings (Edwards-Bell-Ohlson) model. Section 3 discusses accounting differences in the three countries examined. In Section 4 we describe the sample and develop the study design. Section 5 presents the analysis of our data and reports the results of our tests. A final section summarizes our findings.

RESIDUAL EARNINGS MODEL

Finance theory has long accepted the dividend discount model (DDM) as reflecting the correct (normative) equity value of a firm (Brealey and Myers, 1995, pp. 59-62). Under the DDM the value of the firm is the present value of the future dividend stream to equity holders.

$$V_t = \sum_{i=1}^{\infty} (1+r)^{-i} E_t[d_{t+i}] \tag{1}$$

where:

V_t = the equity value of the firm at time t

d_t = dividend at time t (all capital flows to equity holders net of contributions)

r = cost of equity capital

$E(.)$ = expectations operator

Substituting accounting variables into the DDM, Ohlson (1991) developed the following expression relating firm value to accounting values:

$$V_t = b_t + \sum_{i=1}^{\infty} ((1+r)^{-i} E_t[x^a_{t+i}]) \tag{2}$$

The value of the firm (V_t) at time t is the sum of net book value (b_t) plus the discounted expected future abnormal earnings (x^a_t). The equivalence of (1) and (2) requires only three assumptions:

(1) clean surplus accounting: $b_t = b_{t-1} + x_t - d_t$ (3)

(2) residual (abnormal) earnings, defined as earnings exceeding the required return on equity capital: $x^a_t = x_t - rb_{t-1}$ (4)

(3) convergence conditions such that earnings and abnormal earnings are autoregressive.

To estimate equation (1) requires an analyst to forecast the complete future stream of firm net dividends. Rather than reflecting wealth creation, however, dividends reflect wealth distributions (Penman, 1992). Further, the timing of dividends is largely discretionary with growing firms often paying little or no dividends. Hence, estimation of equation (1) requires estimation of a terminal value that may be a large portion of total estimated value. In contrast, equation (2) relies on known book values and estimated future accounting earnings. To the extent that estimating future earnings is easier than estimating future dividends, the residual earnings model is an attractive practical alternative to the DDM.

Since both equations are defined over an infinite horizon, truncation to finite periods will require estimates of terminal value. However, the future values in equation (2) are residual or abnormal earnings. Normal earnings (earnings that return the equity cost of capital) do not add to value and may be ignored. Hence, the portion of total value represented by the terminal value is typically much smaller for equation (2) than for equation (1). This is due to the inclusion in equation (2) of the book value, a measure of normal return on the firm's resources. Only abnormal future returns create value incremental to book value. Rewriting equation (2) where the estimation period ends at time T gives:

$$V_t = b_t + \sum_{i=1}^{T} ((1+r)^{-i} E_t[x^a_{t+i}]) + (1/r)((1+r)^{-T} E_t[x^a_{T+1}]) \qquad (5)$$

In this case abnormal earnings are assumed to be zero on any growth in book value beyond period T, but abnormal earnings at period T are assumed to be a perpetuity. If abnormal earnings at period T are small, the terminal value (the third term) is a small portion of the value of the firm.

Related Research

Research concerned with the relation of accounting numbers and stock prices covers decades. In this brief review we summarize recent research with study designs and research methods similar to ours. We see two principle strains: first, research focused on explaining stock prices with accounting book value and earnings; and second, research examining the *incremental* explanatory power of book value and earnings in the presence of the other.

Stock Prices Explained by Book Value and Earnings-per-Share

Examining a large set of United States firms, Bernard (1993) found that book values explain 55% of the cross-sectional variation in market prices. When the rank of current return on equity (ROE) was added to the regression, these two accounting measures explain about 64% of the variation in market prices. Bernard (1994) finds that ROE is mean reverting over time so that firms with the highest (lowest) current ROEs tend to have lower (higher) ROEs in later years.

Joos and Lang (1994) relate book value and earnings to stock prices for France, Germany, and the United Kingdom. Their sample covers 1982 to 1990, and they focus on the effects of implementing the accounting related directives of the European Union. They find the explanatory power of book value and earnings together ranges from 20% to 38% for Germany, 48-78% for France, and 14-42% for the UK. They do not examine incremental information content. Evidence on changes over time is ambiguous, probably because the time periods for the sample are relatively short. In a more recent study Rees (1977), using a model like that used in this study, finds that book value and earnings explains about 54 percent of the variation in firm value for a large sample of UK firms during the period 1987-1995.[1]

Harris, Lang, and Möller (1994) examine the value relevance of accounting numbers for German firms compared to that for a matched set of US firms for 1982-1991. They find little difference in overall value relevance (R^2) between German and US firms. However, coefficients (multiples) on book value and on earnings for German firms are greater than for matched US firms. Further, they find that consolidation increases the value relevance of accounting numbers, and restatements of earnings to adjust for transitory elements in German accounting also increases explanatory power.

Frankel and Lee (1996) look at the relation between accounting values, earnings forecasts and market prices across twenty countries (including Germany, Norway, and the UK) for eight years, 1987-1994. Sample sizes for these country are relatively small for each year (52-135 for Germany, 1-19 for Norway, and 303-449 for the UK). They find that estimates of value based on the residual earnings model have incremental explanatory power beyond book value and earnings in explaining market value in all countries. In addition, they find evidence of superior returns to trading strategies based on an estimate of value from a residual earnings model.

Incremental Explanatory Power of Book Value and Earnings-per-Share

Collins, Maydew, and Weiss (1997) examine the incremental explanatory power of book value and earnings across a 41-year time period (1953-1993) for United States firms. They find a decline in the ability of earnings to explain market prices over this period. But the explanatory power of book values increase such that total explanatory power is actually higher in more recent periods. Average adjusted R^2 for a model regressing book value and earnings per share on stock price for the first ten years (1953-1962) was 0.50 increasing to 0.69 for their most recent ten-year period (1984-1993). Collins et. al., investigate possible reasons for these changes. They find the reduced explanatory power of earnings is explained by an increase in the incidence of one-time items and reported losses as well as a decrease in the size of firms in the sample.

Harris et. al. (1994) also examine the separate explanatory power of book value and of earnings using simple regressions with only one variable. They do not report the test statistics. However, they report (1) the explanatory power of earnings-per-share in Germany is approximately equal to that in the US, but (2) the explanatory power of book value is much lower for Germany. This contrasts sharply to our results for a longer time period. These results are not tests of incremental explanatory power since the simple regressions use only one variable. However, if the results of these simple regressions were reported, incremental power could be computed as demonstrated by Collins et. al. (1997) and this paper.

This study extends the evidence summarized above. Our sample covers a longer and a more recent time period (fifteen years versus eight to ten years) and contains many more firms for each of the three countries than previous studies. We examine the value relevance of accounting numbers across countries and focus on the incremental and relative explanatory power of book value and earnings. Accounting systems differ across the countries, and this study examines whether those differences, particularly differences in conservatism and violations of clean surplus accounting, are related to the valuation usefulness of accounting measures. Finally, we use future realized earnings as measures of expected earnings to address whether models using longer time horizons of expected earnings will improve explanatory power.

ACCOUNTING DIVERSITY

The residual earnings model is affected by the particular rules of the accounting system in two ways. First, the model assumes clean surplus accounting; changes in book value, other than net capital investments, come through the income statement. Expected future violations of clean surplus accounting destroys the equivalence of the residual earnings model with the DDM. Second, bias in the accounting system may bias estimates of the value of future residual earnings. Accounting practice in many countries has a conservative bias, and "conservatism" is sometimes cited as a positive attribute of an accounting system. Under conservative accounting, changes in values are reflected in accounting numbers slowly and often with bias. Value reductions are typically reflected more quickly than value increases. In this section we evaluate the accounting practices of the countries in our study on these two dimensions. Then we develop hypotheses on the effects of these differences on the value relevance of accounting numbers.

Anecdotal evidence suggests that the financial reporting (accounting) systems of different countries may be evaluated in terms of quality from an investor's perspective (Choi and Levich, 1991; Weetman and Gray, 1991; and Haller, 1992).[2] Classification studies have categorized accounting systems in different countries on criteria such as business environment (Mueller, 1968), measurement and disclosure practices (Nair and Frank, 1980) and culture and social values (Hofstede, 1980; Gray, 1988; and Perera, 1989).

In Gray's (1988) classification study accounting practice in the UK is dominated by *professionalism* and allows more *flexibility* than the accounting system in Norway, while German accounting puts more emphasis on *uniformity* and *statutory control*. Further, using the dimensions *optimism* versus *conservatism* and *secrecy* versus *transparency*, Gray rates accounting practice in the UK as more *optimistic* and more *transparent* than accounting in Norway. However accounting in both the UK and Norway is much more *transparent* and much less *conservative* than German accounting .

Nobes (1994, p.61) highlights the following features of UK accounting: (1) the immediate write off of goodwill against reserves, (2) the common practice of capitalizing purchased or created brand names, (3) the lack of depreciation of investment properties and of many shops, hotels, etc., (4) the uncontrolled revaluation of assets such as land and buildings, and (5) the partial allocation method of deferred taxes (only deferred taxes expected to be paid in the foreseeable future are accounted for). Items (1) and (4) are violations of clean surplus accounting.[3]

For Germany, Nobes (1994, p. 63) points to the following characteristics: (1) the very strong link between tax and accounting rules (Massgeblichkeitsprinzip) that, according to Haller (1992), stimulates a desire to create hidden reserves,[4] (2) the downward bias in valuations; (3) unfunded pension liabilities and pension costs based on tax rules rather than economic assumptions; (4) the use of historical exchange rates for fixed assets of foreign subsidiaries; and (5) larger provisions (frequently not disclosed) than what would be considered necessary by US/UK accountants. The collective effect of these features is a very conservative calculation of book value and distributable profit.

Compared to Germany and the UK, Norwegian GAAP has undergone rapid and substantial change during the 1980s and 1990s. Up to 1976-77, financial statements were linked to tax statements and based on tax rules. The new Company Act of 1976 and the Accounting Act of 1977 introduced a *tax link model.* This model was an attempt to present financial statements that satisfied the information needs of both investors and the tax authorities (Kinserdal 1994). In practice, however, tax considerations continued to dominate the measurement of profits, assets, and equity. For example, most large companies did not disclose information about tax-induced reserves until 1984-85. Tax considerations continued to play an important role in Norwegian accounting until 1992, when deferred taxes were introduced.

These changes in accounting regulation have moved Norwegian accounting from a system somewhat similar to that of Germany to one more like that of the UK. However, Norwegian accounting is still quite different from that of the UK. For example, none of the features highlighted by Nobes (1994) as important in UK accounting are found in Norway. That is, in Norway (1) goodwill must be capitalized and amortized, (2) brand names may not be capitalized unless purchased (however, some marketing costs may be capitalized), (3) depreciation of property, plant, and buildings is mandatory, (4) revaluation of fixed assets is allowed only under restrictive conditions, and (5) deferred taxes are calculated using the liability method (as in the US). In summary, Norwegian accounting is less conservative than German accounting and has fewer violations of clean surplus than does UK accounting.

Appendix A gives a summary of some of the accounting standards and rules for the three countries. The table is based on a survey by Price Waterhouse (1995) with additional information from Nobes (1994) and Schwencke and Alexander (1996). This summary allows comparison of accounting practices across the three countries with a specific focus on accounting practices that differ significantly in conservatism or in violations of the clean surplus assumption. The summary does not include areas of accounting practice that are similar across the three countries.

In summary, the three countries exhibit considerable diversity in accounting practice. German accounting has long been considered conservative and focused more on tax and lender concerns than on information for investors (Samuels et. al., 1995, Ch. 4). Accounting in the United Kingdom is thought to be less conservative, focused primarily on equity investors, and more concerned with reflecting market values (Samuels et. al., 1995, Ch. 4). Norwegian accounting has changed rapidly in recent years from a tax-based, relatively conservative "continental model" to one closer to the US/UK/Dutch investor-oriented model (Johnsen, 1993 and Kinserdal, 1994). The three coun-

Table 1. Summary of Accounting Differences

Clean Surplus Violation	*Germany*	*Norway*	*United Kingdom*
Goodwill written off against equity	some	no	yes
Revaluation of assets	no	some	frequent
Prior period adjustment to equity	no	no	yes
Effect of new accounting principles	no	some	yes
Conservatism			
Inventory valuation	lowest	higher	higher
Interest capitalized	no	some	some
Research and development capitalized	no	some	some
Long-term contracts	completed contract	% completion	% completion
Provisions and reserves	largest	smaller	smaller

Table 2. Sample and Study Design

Sample Selection	*Firm-years*
Global Researcher 1987-1996 (1995 for Norway)	14,078
Datastream 1982-1986	2,388
Negative book value	–857
Missing observations of price, book value, ROE, EPS, or P/E	–345
Top and bottom 1% of ROE and P/E	–621
Sample size	14,643
Germany	2,716
Norway	922
United Kingdom	11,005
Sample size	14,643

tries differ in both their conservatism and the extent to which they adhere to clean surplus. German accounting is most conservative and UK accounting least, while UK accounting has greater violations of *clean surplus* accounting. Norwegian accounting is thought to lie between these extremes (Table 1).

SAMPLE AND STUDY DESIGN

Our sample covers publicly traded firms in Germany, Norway and the United Kingdom across the period 1982 through 1996. The stock prices and accounting data for this study are from the *Worldscope Global Researcher* as well as data maintained by the Institute of Business Economics at the Norwegian School of Management.[5] The sample selection criteria are:

1. Accounting data is from consolidated financial statements.
2. Financial firms are excluded (insurance, banks, property companies, investment companies, and other miscellaneous financial firms). Accounting practices for these

Table 3. Descriptive Statistics on Variables for Three Countries

Variable	*N*	*Mean*	*Std. Dev.*	*5th Percentile*	*Median*	*95th Percentile*
Panel A: Germany						
Price per share	2,716	330.2	356.8	26.3	241.0	870.0
Book value of equity per share (BV)	2,716	136.2	116.0	11.7	116.8	327.8
Earnings per share (EPS)	2,716	8.8	52.3	−24.7	9.5	42.4
Return on equity (EPS/BV)	2,716	6.0	23.1	−32.0	8.9	26.1
Panel B: Norway						
Price per share	922	205.3	449.2	8.2	97.8	680.0
Book value of equity per share (BV)	922	118.5	245.0	5.9	59.9	358.1
Earnings per share (EPS)	922	15.1	45.7	−6.1	5.8	61.8
Return on equity (EPS/BV)	922	9.6	19.3	−24.5	10.4	37.1
Panel C: United Kingdom						
Price per share	11,005	2.07	6.92	0.20	1.27	5.36
Book value of equity per share (BV)	11,005	1.31	4.97	0.12	0.71	3.42
Earnings per share (EPS)	11,005	0.14	0.49	−0.07	0.10	0.43
Return on equity (EPS/BV)	11,005	12.95	22.54	−16.67	14.29	39.58

Note: N = the number of firm-years, 1982–1996 for Germany and the United Kingdom and 1982–1995 for Norway. Price, book value, and earnings per share amounts are in nominal local currency.

firms are so distinct that their valuation parameters are likely to be substantially different from those for industrial firms.

3. Firms with negative book values are deleted.[6] These firms are likely to be in financial distress and may be interesting in their own right. However, the focus of this study is the cross-country differences in value relevance of accounting numbers derived under different accounting practices. Hence, restricting our sample to firms with positive book values will allow us to focus on firms where differences are mostly likely to reflect accounting differences.
4. We also trim the sample of the most extreme values. We omit firm-years with the largest and smallest 1% of observations ROE and P/E (Table 2).

Table 4. Correlation Statistics for Three Countries

			PEARSON							
		N	*PRICE*	*BOOK*	*ROE*	*EPS*	EPS_{t+1}	EPS_{t+2}	EPS_{t+3}	EPS_{t+4}
Panel A: Germany										
S	PRICE	2,716	1	0.597***	0.109***	0.145***	0.115***	−0.010	−0.091***	−0.055**
P	BOOK	2,716	0.733***	1	0.022	−0.114***	−0.006	−0.046**	−0.090***	−0.149***
E	ROE	2,716	0.182***	−0.030	1	0.463***	0.158***	0.056***	0.130***	0.056**
A	EPS	2,716	0.645***	0.609***	0.679***	1	0.251***	0.067***	0.177***	−0.018
R	EPSt + 1	2,399	0.532***	0.475***	0.485***	0.727***	1	−0.019	0.049**	0.132***
M	EPSt + 2	2,081	0.425***	0.374***	0.401***	0.579***	0.732***	1	0.549***	0.080***
A	EPSt + 3	1,770	0.360***	0.311***	0.346***	0.496***	0.571***	0.723***	1	0.164***
N	EPSt + 4	1,454	0.331***	0.267***	0.326***	0.449***	0.501***	0.563***	0.709***	1
Panel B: Norway										
S	PRICE	922	1	0.798***	0.142***	0.636***	0.442***	0.211***	0.145***	0.127**
P	BOOK	922	0.729***	1	0.080**	0.713***	0.440***	0.272***	0.181***	0.140***
E	ROE	922	0.329***	0.089***	1	0.372***	0.239***	0.118***	0.129***	0.032
A	EPS	922	0.724***	0.668***	0.698***	1	0.405***	0.251***	0.211***	0.091*
R	EPSt + 1	767	0.580***	0.504***	0.439***	0.696***	1	0.324***	0.313***	0.180***
M	EPSt + 2	618	0.488***	0.443***	0.269***	0.501***	0.685***	1	0.430***	0.421***
A	EPSt + 3	482	0.424***	0.384***	0.182***	0.395***	0.477***	0.666***	1	0.222***
N	EPSt + 4	364	0.404***	0.345***	0.141***	0.330***	0.347***	0.468***	0.671***	1
Panel C: United Kingdom										
S	PRICE	11,005	1	0.665***	0.047***	0.744***	0.051***	−0.241***	−0.173***	−0.796***
P	BOOK	11,005	0.708***	1	−0.025***	0.515***	−0.269***	−0.348***	−0.558***	−0.451***
E	ROE	11,005	0.274***	−0.211***	1	0.234***	0.057***	0.025**	0.017	0.003
A	EPS	11,005	0.809***	0.665***	0.477***	1	0.204***	−0.172***	−0.107***	−0.611***
R	EPSt + 1	9,608	0.601***	0.463***	0.330***	0.694***	1	0.062***	0.269***	−0.074***
M	EPSt + 2	8,217	0.480***	0.377***	0.218***	0.523***	0.784***	1	0.066***	0.266***
A	EPSt + 3	6,887	0.372***	0.316***	0.117***	0.392***	0.605***	0.776***	1	0.062***
N	EPSt + 4	5,618	0.273***	0.272***	0.058***	0.318***	0.469***	0.605***	0.776***	1

Notes: *N* = the number of firm-years, 1982–1996 for Germany and the United Kingdom and 1982–1995 for Norway.

PRICE = Stock price at the end of fiscal year *t*;
BOOK = Book value of shareholder' equity at the end of time *t*;
EPS = Earnings per share for period ending at time *t*;
ROE = EPS/Book;
EPS_{t+T} = Realized earnings per share *T* periods following time *t*.

*** Significantly different from zero at the 0.01 level (2-tailed).
** Significantly different from zero at the 0.05 level (2-tailed).
* Significantly different from zero at the 0.10 level (2-tailed).

These restrictions on the sample will have several effects. First, the model will appear to "fit" better than it would fit unrestricted data. That is, the explanatory power of book value and of earnings information in the sample is likely to be greater than for an unrestricted sample. Second, the samples across the three countries will be more homogeneous and the effects of different business cycles in the three countries will be reduced. This should allow a better focus on the effects of accounting differences.

Table 3 provides descriptive statistics for the sample for all three countries for the fifteen-year time period. Amounts are nominal per share values in the currency of each country. We do not adjust amounts to a common currency. In cross-country analysis we use dummy intercept and interaction terms to allow the coefficients for each country to be independent. Finally, we do not adjust for changes in purchasing power, but we explore the stability of the relationships over time. The descriptive data reveal some positive skewness (means are higher than medians) for values of price, book value, and earnings per share (EPS). ROE measures are highest for the UK with mean (median) 13.0% (14.3%) and lowest for Germany with mean (median) 6.0% (8.9%), while ROE for Norway has a mean (median) of 9.6% (10.4%).

Table 4 reports pairwise correlation between stock price and accounting variables for all three countries. The rank (Spearman) correlations are greater than the product-moment (Pearson) correlations, sometimes substantially so. This probably indicates the presence of outlier observations. The correlation between current earnings per share and future earnings per share are relatively high but decline across lags of one to four years. Again, rank correlations are far higher than product-moment correlations. For the United Kingdom product-moment correlations between current and future earnings are significantly negative.

Hypotheses

The study addresses three questions. First, are there systematic differences across countries in the value relevance of accounting numbers? Second, are there systematic differences in the incremental and relative contribution of book values and earnings to value relevance across the countries? Third, do future realizations of earnings (as proxies for expected future earnings) have information content in explaining current stock prices? We develop our hypotheses based on the differences in accounting practices across countries as previously summarized.

Differences Across Countries Due to Accounting Bias (Conservatism)

Feltham and Ohlson (1995) show that bias in accounting procedures can result in abnormal measured earnings in future years even if economic income is normal. Conservative accounting can cause accounting book values to lag their market values, and future earnings on these assets will appear abnormal. Therefore, the value relevance of biased book value will be reduced. The effect of accounting bias on the value relevance of expected earnings depends on the relation between the bias and operational performance, and across firms this effect is expected to be near zero. As discussed above, Germany's accounting practices are most conservative with respect to recognition of changes in net asset values.[7] Accounting practices in the UK are least conservative and those in Norway are between. This leads to the following hypotheses (in alternate form):

HA1: Conservative German accounting practices will result in lower value relevance (explanatory power) for book value and earnings together than in Norway and the UK.

HA2: United Kingdom accounting, being the least conservative, will have more value relevance (explanatory power) for book value and earnings together than under German and Norwegian accounting.

Together these hypotheses imply that R^2_G (BV, EPS) < R^2_N (BV, EPS) < R^2_{UK} (BV, EPS).

Differences Across Countries Due to Clean Surplus Violations

The effect of violations of the clean surplus relation (CSR) on the value relevance of book value depends on whether the violation causes book value to be closer to or further from market values. Under the residual earnings model only *abnormal* future earnings are value relevant. If book value reflects completely the value of all net assets that provide future earnings, expected abnormal earnings are zero. However, when CSR violations cause net assets that affect future earnings to be removed from book value, the value relevance of book value will be reduced. The effect of clean surplus violations on the value relevance of expected earnings is ambiguous.

Two violations of clean surplus accounting discussed in section 3: (1) the revaluation of assets to reserves permitted in the UK and (2) the direct write-off of goodwill to reserves allowed in Germany and the UK. We expect these to have opposite effects on the value relevance of accounting numbers. Asset revaluations are primarily of property, and property revaluations tend to bring book value nearer to market value. The effect on earnings is likely to be small. Revalued land is, of course, not depreciated. Revalued buildings are often not depreciated in the UK under the justification that they are maintained to a high standard (Samuels, et. al., 1994, Chapter 6). Hence, property revaluation is primarily a "book value effect" until disposal. Book values subsequent to revaluation will more nearly reflect market values of assets; therefore, these book values should explain more of the variation in firm market values. That is, revaluations should lead to greater explanatory power for book values.[8] In contrast, goodwill write-offs cause book values to omit intangibles having positive market value in the acquisition transaction. Hence, goodwill write-offs will tend to decrease the relation between book value and market value. Surveys and analysis of accounting practice (Nobes, 1994; CIFAR, 1995; and FEE, 1991) indicate that most UK firms revalue land and buildings. Goodwill is written off directly to reserves by many UK firms, but some amortize goodwill.

These two CSR violations are expected to have opposite effects on the *relative* explanatory power of book value and earnings for stock prices. Assets can be revalued many times, but goodwill can be written off only once. However, the effects of these CSR violations will depend on their magnitude as well as their frequency. Hence, the effects of these CSR violations on the relative explanatory power of earnings versus book value are unclear for the UK.

German accounting principles allow direct goodwill write-offs, but the majority of the companies surveyed by FEE amortize goodwill (FEE, 1991). Hence we expect little effect from these apparently infrequent violation of CSR. Norway has few significant violations of CSR. We explore the incremental and relative value relevance of book value and of earnings for all three countries, but we do not have directional hypotheses.

Differences Within Countries

As discussed above, accounting bias (conservatism) tends to reduce the information content of both book value and earnings. And violations of the CSR may either increase or decrease the information content of book value depending on whether the violation moves book value toward or away from market values. Accounting in the UK is relatively less conservative, and goodwill write-offs and asset revaluations have conflicting effects. Hence, we have no prediction on the *relative* information content of book value and earnings in the UK. Germany has the greatest conservative bias in its accounting and relatively few violations of CSR. Therefore, we expect the effects of conservatism to dominate and the value relevance of both book value and earnings to be reduced. We have no prediction on the *relative* information content of book value and earnings in Germany. Conservatism in Norway is less important than in Germany and there are few CSR violations. Again we have no predictions on the relative information content of book value and earnings. In summary, the expected directions of differences in the incremental and relative explanatory power of book value and earnings are ambiguous. We explore these differences and provide descriptive evidence rather than hypothesis tests.

We also investigate changes in the value relevance of accounting numbers over time. For example, since Norwegian accounting has changed from primarily tax-driven to more investor focused over the past decade, it seems likely that we would observe value relevance similar to German accounting in early years and growing more similar to UK value relevance in later years. As a second example, German implementation of the European Union's Fourth and Seventh Directives in the *Accounting Directives Law of 1985* might be expected to increase the value relevance of German accounting.

Finally, we examine the value relevance of future earnings realizations for current stock prices. This analysis tests the effect of truncating the time horizon in the residual earnings model. If future earnings have incremental explanatory power for current stock prices, then future earnings estimates are important for implementing the model. On the other hand, if future earnings realizations add little, implementing the model with only current book value and earnings may be a useful and parsimonious simplification.

Our analysis is based on cross-sectional regressions of current stock prices (dependent variable) on accounting book values and earnings. We analyze both the *incremental* and the *relative* explanatory power of book value and earnings using an approach applied previously in accounting by Biddle, Seow and Siegel (1995) and Collins, Maydew and Weiss (1997).

TESTS AND ANALYSIS

Empirical specification of equation (5) requires estimates of book value, expected abnormal earnings, and the horizon for abnormal earnings. For abnormal earnings estimated to terminate at time T, the model would be:

$$\text{Price}_{it} = a_0 + a_1\text{Book}_{it} + a_2\text{AE}_{it} + a_3\text{AE}_{it+1} + a_4\text{AE}_{it+2} + \ldots + a_k\text{AE}_{iT} + e_{it} \quad (6)$$

where:

Price_{it} = price per share of firm i at time t;
Book_{it} = book value per share of firm i at the end of period t;
AE_{it} = abnormal earnings per share of firm i for year $t + k$;

The coefficient a_1 would have an expected value of 1.0 while the coefficients a_2 to a_4 would have expected values of $(1 + r)^{-t}$. Finally, the expected value of coefficient a_k would be $(1/r)*(1 + r)^{-T}$. Abnormal earnings horizons will differ cross-sectionally; therefore, parsimonious cross-sectional representations of (6) will have only a few terms. For example Frankel and Lee (1996) use $T = 2$.

Our first tests are concerned with the incremental explanatory power of book value and earnings. As in Collins et. al. (1997) we compare the results of three regression equations to address the question of incremental explanatory power. Equation (7) below provides the most parsimonious empirical specification of equation (5) (the horizon is only one period). Reported earnings are used as the proxy for expected abnormal earnings. Reported earnings are the sum of normal and abnormal earnings. To the extent that normal earnings are low variance, reported earnings will be a good surrogate.

$$\text{Price}_{it} = b_0 + b_1\text{Book}_{it} + b_2\text{EPS}_{it} + e_{it} \quad (7)$$

where:

Price_{it} = price per share of firm i at time t;
Book_{it} = book value per share of firm i at the end of period t;
EPS_{it} = earnings per share of firm i for year t.

In the residual earnings model (equation 5) book value (b_t) and firm intrinsic value (V_t) are taken at time t while future abnormal earnings (x^a_{t+i}) are for periods after time t. In our empirical analysis earnings (E_t) are for the period ending at time t. Hence, as in Bernard (1994) and Collins et. al. (1997), earnings are current rather than estimated future earnings. Further, in our study stock prices, book values, and earnings are all as of time t. Book values and earnings would not, of course, be announced until some weeks later. This study addresses association between accounting and market values rather than prediction of market values. Collins et. al. (1997), examining associations between market and accounting numbers for United States firms, take prices three months after the end of the fiscal period. In cross-country studies, however, this is problematic since the time lag between fiscal year ends and report dates can vary widely. In Germany, for example, lags of six months are typical and lags of up to nine months are not unusual (Harris et. al., 1994).

Equation (7) expresses price as a function of book value and earnings. Examining the incremental (and relative) explanatory power of book value and of earnings requires two additional equations expressing price as a function of book value alone, equation (8), and earnings alone, equation (9).[9]

Table 5. Incremental and Relative Information Content of Book Values and Earnings

		Equation (7)				Equation (8)		Equation (9)		Incremental		
Year	*N*	*Constant*	b_1*(book)*	b_2*(eps)*	$R^2(b,e)$	c_1*(book)*	$R^2(b)$	d_1*(eps)*	$R^2(e)$	$R^2(b\|e)$	$R^2(e\|b)$	$R^2(com)$
Panel A: Germany												
All Year s	2,716	56.88	1.91	1.47	0.402	1.84	0.356	0.99	0.021	0.381	0.046	–0.025
		(2.21)	(9.50)	(6.34)		(7.81)		(1.40)				
Yearly Mean		78.55	1.35	3.29	0.428	1.59	0.300	4.46	0.212	0.216	0.129	0.084
t-statistic		(6.32)	(6.61)	(4.15)		(8.63)		(4.39)				
Panel B: Norway												
All Years	922	32.76	1.28	1.34	0.646	1.46	0.637	6.26	0.405	0.241	0.009	0.396
		(1.80)	(4.99)	(1.21)		(6.96)		(3.99)				
Yearly Mean		38.68	0.95	2.01	0.591	1.12	0.535	4.44	0.314	0.277	0.056	0.258
t-statistic		(3.92)	(4.49)	(2.03)		(7.31)		(4.89)				
Panel C: United Kingdom												
All Years	11,005	0.30	0.53	7.67	0.662	0.93	0.442	10.43	0.554	0.108	0.220	0.334
		(0.83)	(4.07)	(2.49)		(3.80)		(3.46)				
Yearly Mean		0.46	0.33	6.57	0.718	0.98	0.581	8.05	0.581	0.137	0.155	0.427
t-statistic		(2.77)	(3.05)	(6.20)		(6.73)		(7.31)				

Notes: (*t*-statistics) are adjusted for heteroscedasticity using White's adjustment.

The mean coefficient is the time-series average of yearly regression coefficients, and the *t*-statistic is the average coefficient divided by its time-series standard error. The mean R^2 is the average of yearly R^2.

$$\text{Price}_{it} = b_0 + b_1\text{Book}_{it} + b_2\text{EPS}_{it} + e_{it} \quad (7)$$
$$\text{Price}_{it} = c_0 + c_1\text{Book}_{it} + e_{it} \quad (8)$$
$$\text{Price}_{it} = d_0 + d_1\text{EPS}_{it} + e_{it} \quad (9)$$

where: Price_{it} = price per share of firm i at time t
Book_{it} = book value per share of firm i at the end of period t
EPS_{it} = earnings per share of firm i for year t

$R^2_{b|e} = R^2_{b,e} - R^2_e$ The incremental explanatory power of book value is the total explanatory power of book value and earnings less the explanatory power of earnings alone.

$R^2_{e|b} = R^2_{b,e} - R^2_b$ The incremental explanatory power of earnings is the total explanatory power of book value and earnings less the explanatory power of book value alone.

$R^2_{com} = R^2_{b,e} - R^2_{b|e} - R^2_{e|b}$ The common explanatory power of book value and earnings is the total explanatory power of book value and earnings less the incremental explanatory power of book value and the incremental explanatory power of earnings.

$$\text{Price}_{it} = c_0 + c_1 \text{ Book}_{it} + e_{it} \quad (8)$$

$$\text{Price}_{it} = d_0 + d_1 \text{ EPS}_{it} + eit \quad (9)$$

Following Theil (1971) we define the incremental explanatory power of the book value and earnings variables in terms of differences in the coefficient of determination (R^2). These differences are sometimes called the *semi-partial coefficient of determination* (Cohen and Cohen, 1975, 79-84). They are a measure of the incremental explanatory power of one variable given the remaining independent variables

Define the R^2 statistics from equations (7), (8), and (9) as $R^2_{b,e}$, R^2_b and R^2_e respectively. Then the incremental explanatory power is defined as:

$R^2_{b|e} = R^2_{b,e} - R^2_e$ The incremental explanatory power of book value is the total explanatory power of book value and earnings less the explanatory power of earnings alone.

$R^2_{e|b} = R^2_{b,e} - R^2_b$ The incremental explanatory power of earnings is the total explanatory power of book value and earnings less the explanatory power of book value alone.

$R^2_{com} = R^2_{b,e} - R^2_{b|e} - R^2_{e|b}$ The explanatory power common to book value and earnings is the total explanatory power of book value and earnings less the incremental explanatory power of book value and the incremental explanatory power of earnings.[10]

We can also assess the *relative* explanatory power of book value and earnings by comparing the conditional (incremental) power as shown above (Biddle et. al., 1995). That is, we can also address the question of whether book value or earnings has greater explanatory power for each country.

Explanatory Power of Book Value and Earnings Per Share Across Three Countries

Table 5 reports summaries of regressions (7), (8), and (9) as well as incremental R^2 for all years together for all three countries. The yearly results are shown in Appendix B. First, we focus on the coefficients and the significance of regressions (7), (8), and (9), and then we analyze the incremental and relative information content.[11] Because tests indicate the presence of heteroscedasticity in the error terms, White's adjusted t-statistics are reported. We also computed diagnostics for multicollinearity in the independent variables. For regressions over all years condition indexes were less than 3.0 for all variables, and in no year did any condition index exceed 8.2. Hence, multicollinearity is unlikely to affect the coefficients.

For Germany regression (7) shows that book value is strongly significant for all years together (t-statistic = 9.50) and for the average across the fifteen years (t-statistic = 6.61). The coefficient on book value is 1.9 for regression (7) and 1.8 for regression (8). On a year-by-year basis all the coefficients from regression (7) on book value are positive and are significant at the 10 percent level (two-tail) in thirteen of fif-

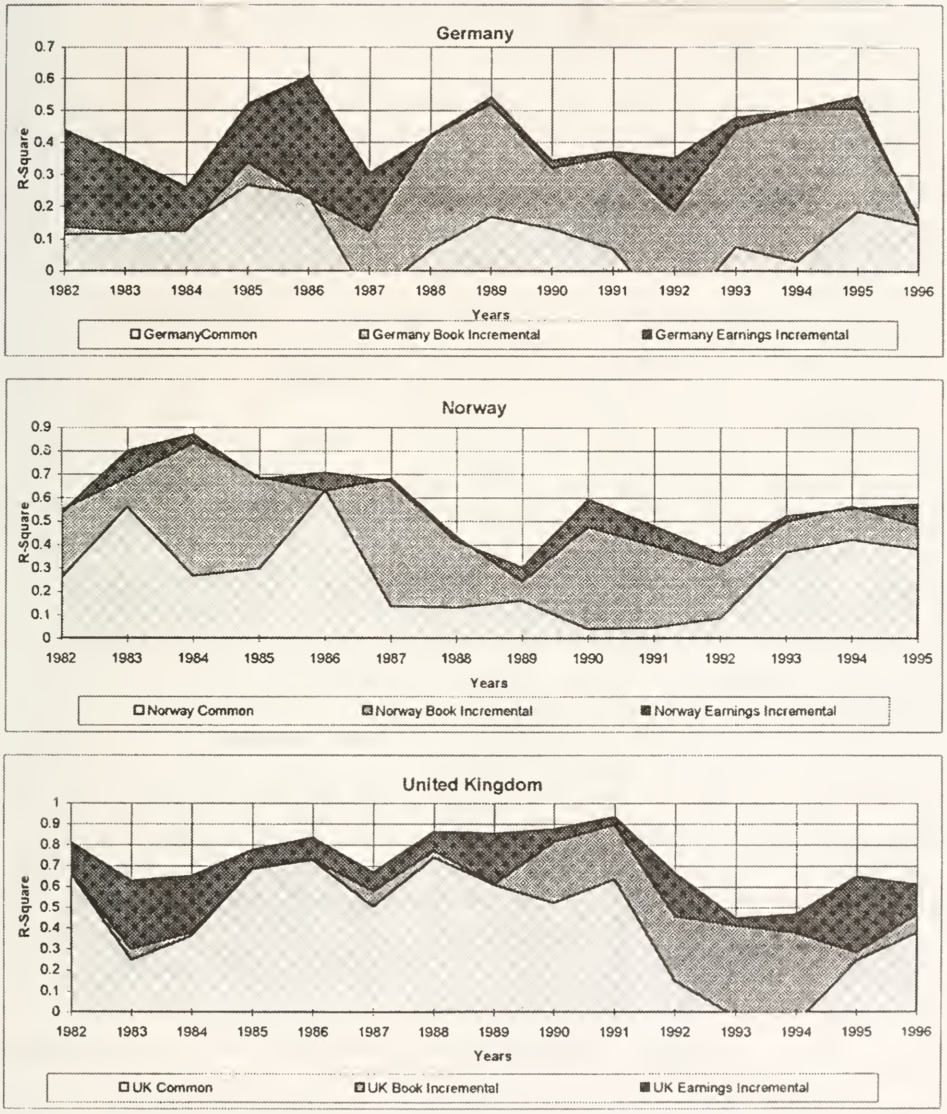

Figure 1. Incremental Explanatory Power of EPS and Book Values Over Time

teen years. In regression (8) the yearly coefficients on book value are all positive and significant. The coefficients for EPS from both regression (7) and regression (9) are positive and significant in twelve of fifteen years. EPS is significant for all years together (t-statistic = 6.34) for regression (7) and for regression (9) (t-statistic = 4.39). The coefficient on EPS is 1.47 for regression (7) and 0.99 for regression (9). Overall R^2 exceeds 40% both for all years together and the average for all years.[12]

For Norway coefficients on book value are positive and significant for twelve of fourteen years for regression (7) and for all years for regression (8). For all years together book

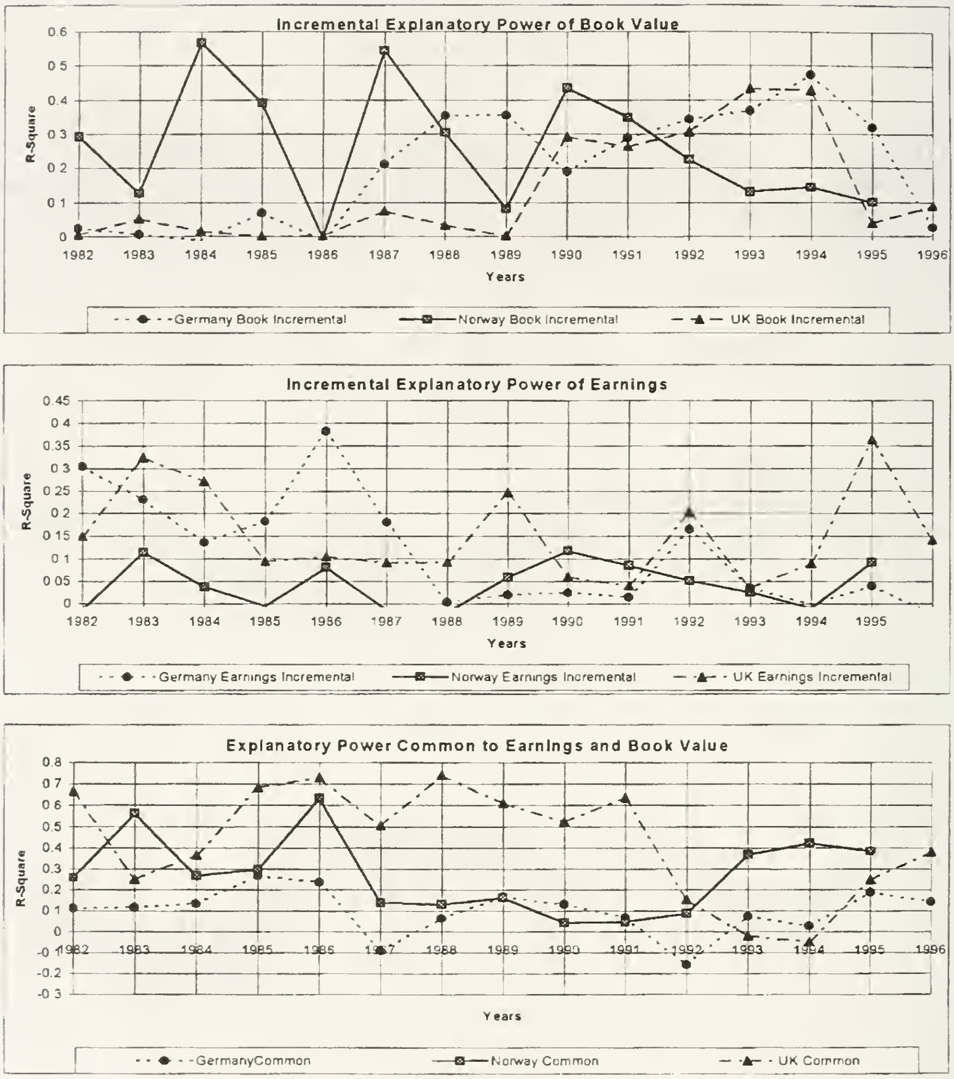

Figure 2. Incremental Explanatory Power of EPS and Book Values for Three Countries

value is strongly significant (t-statistic = 4.99). Coefficients on book value are 1.28 for regression (7) and 1.46 for regression (8). EPS coefficients are positive in ten and significant in six of fourteen years for regression (7). For regression (9) EPS coefficients are positive for all years and significant for twelve of fourteen years. EPS is significant for all years together for regression (9) with a t-statistic of 3.99 but not significant for regression (7) (t-statistic = 1.27). The yearly mean coefficients on EPS are significant for both equation 7 (t-statistic = 2.03) and equation 9 (t-statistic = 4.89). For all years together coefficient values for EPS are 1.34 for regression (7) and 6.26 for regression (9). This difference may indicate higher collinearity between book value and EPS for Norway than for Germany. Overall R^2 exceeds those for Germany. For all years R^2 is 65% and the yearly average is 59%.

For the UK coefficients on book value are positive for thirteen of fifteen years and significant in nine of fifteen years for regression (7) and positive and significant for all years for regression (8). The t-statistics on the book value coefficient are 4.07 and 3.80 for regressions (7) and (8) respectively. Coefficients on book value are lower than for Germany and Norway, 0.5 for regression (7) and 0.9 for regression (8). On the other hand, coefficients on EPS are higher than for Germany and Norway, 7.7 for regression (7) and 10.4 for regression (8). Coefficients on EPS are positive for all years for both regressions (7) and (9) and significant in fourteen and thirteen years respectively. For all years together t-statistics on EPS are 2.49 and 3.46 for regressions (7) and (9), respectively. R^2 for regression (7) is 66% for all years together and the yearly average is 72%. The explanatory power of book value and accounting earnings for firm value (R^2 from Table 5 and Appendix B) differs significantly for each country pair. Accounting explains significantly more of firm value in the UK than in either Germany (t-statistic = 6.4) or Norway (t-statistic = 2.1), and accounting numbers in Norway explain significantly more of firm value than in Germany (t-statistic = 2.7).

The following conclusions seem warranted. First, for all three countries we find that both book value and current earnings are strongly and positively related to current market prices. This is true overall and for most years. Second, over the entire period and for most years German accounting numbers provides the least explanatory power while accounting numbers for UK firms provides the most explanatory power with Norway between. This is consistent with the alternative hypotheses **HA1** and **HA2**. It is also consistent with arguments that conservative German accounting is less value relevant than the less conservative accounting in Norway and the United Kingdom.

Coefficients on book value are between 1.0 and 2.0 for Germany and Norway, significantly greater than the expected value of 1.0. For the UK, on the other hand, the book value coefficient is significantly less than 1.0. Coefficients on earnings per share are between 1.0 and 2.0 for Germany and much higher for Norway and the UK (greater than 6.0). This leads to the question of *incremental* value relevance for book value and EPS.

Incremental Value Relevance of Book Value and Earnings Per Share

Next, we examine the incremental explanatory power of book value beyond that for EPS, $R^2_{b|e}$, and the incremental explanatory power of EPS beyond that of book value, $R^2_{e|b}$. Relative information content can be addressed by comparing $R^2_{b|e}$ and $R^2_{e|b}$ to each other (Biddle et. al., 1995). Table 5 reports these results for all years together. Appendix B contains the results for each year, and Figures 1 and 2 show the patterns across time.

For Germany the incremental information content of book value, $R^2_{b|e}$, is relatively high from 1987 to 1995 ranging from 20% to 48%. However, $R^2_{b|e}$ was very low from 1982 to 1986. In contrast, $R^2_{e|b}$ ranged from 19% to 40% prior to 1988 but was low thereafter. Overall, $R^2_{b|e}$ is 38% for all years together with a yearly average of 22%. The incremental explanatory power of EPS beyond that of book value, $R^2_{e|b}$, is only 5% for all years while the yearly average is 13%. Overall, book value is more important than earnings in explain-

Table 6. Regressions of Yearly *R*-Square Statistics on Time (coefficients and *t*-statistics)

Dependent Variable	*N*	*Constant*	*Time*	*Adj. R^2*	*F-stat*
Panel A: Explanatory Power of Book Value and Earnings Over Time by Country					
Germany					
Total R^2(book, eps)	15	0.440	−0.002	−0.073	0.048
		(7.03)	(−0.22)		
Incremental R^2(book)	15	0.024	0.024	0.427	11.42***
		(0.37)	(3.38)		
Incremental R^2(eps)	15	0.287	−0.020	0.458	12.83***
		(5.70)	(−3.58)		
Incremental R^2(common)	15	0.130	−0.006	−0.017	0.77
		(2.19)	(−0.88)		
Norway					
Total R^2(book, eps)	14	0.736	−0.019	−0.211	4.47*
		(9.44)	(−2.12)		
Incremental R^2(book)	14	0.375	−0.013	0.021	1.28
		(3.81)	(−1.13)		
Incremental R^2(eps)	14	0.039	0.002	−0.041	0.49
		(1.38)	(0.70)		
Incremental R^2(common)	14	0.322	−0.009	−0.043	0.46
		(2.97)	(−0.68)		
UK					
Total R^2(book, eps)	15	0.819	−0.013	0.078	2.19
		(10.60)	(−1.48)		
Incremental R^2(book)	15	−0.030	0.021	0.284	6.56**
		(−0.40)	(2.56)		
Incremental R^2(eps)	15	0.178	−0.003	−0.060	0.209
		(3.05)	(−0.46)		
Incremental R^2(common)	15	0.671	−0.030	0.210	4.73**
		(5.27)	(−2.18)		

Notes: $R^2_t = b_0 + b_1\text{time} + e_t$

where:

R^2_t = R^2 for regression of total or incremental book value/EPS/common on current price for year *t*

time = index equals 1 in 1982, 2 in 1983...and 15 in 1996.

Dependent Variable	*N*	*Constant*	*Dum_G*	*Dum_K*	*Time*	*Time × Dum_G*	*Time × Dum_UK*	*Adj. R^2*	*F-statistic*
Panel B: Explanatory Power of Book Value and Earnings Over Time for All Countries									
Total R^2(book, eps)	44	0.736	−0.296	0.082	−0.019	0.018	0.007	0.474	8.74***
		(9.86)	(−2.86)	(0.79)	(−2.21)	(1.51)	(0.58)		
Incremental R^2(book)	44	0.375	−0.351	−0.405	−0.013	0.037	0.034	0.298	4.49***
		(4.61)	(−3.11)	(−3.59)	(−1.37)	(2.88)	(2.63)		
Incremental R^2(eps)	44	0.039	0.248	0.139	0.002	−0.022	−0.005	0.313	4.91***
		(0.79)	(3.62)	(2.03)	(0.40)	(−2.83)	(−0.673		
Incremental R^2(common)	44	0.322	−0.193	0.348	−0.009	0.003	−0.022	0.401	6.77***
		(3.07)	(−1.32)	(2.39)	(−0.70)	(0.18)	(−1.32)		

Notes: $R^2_t = b_0 + b_1\,\text{dum\_G} + b_2\,\text{dum\_UK} + b_3\text{time} + b_4\text{time} \times \text{dum\_G} + b_5\text{time} \times \text{dum\_UK} + e_t$

where:

R^2_t = R^2 for regression of total or incremental book value/EPS/common on current price for year *t;*

dum_G = dummy variable for Germany;

dum_UK = dummy variable for United Kingdom;

time = index equals 1 in 1982, 2 in 1983...and 15 in 1996.

*** Significantly different from zero at the 0.01 level (2-tailed).

** Significantly different from zero at the 0.05 level (2-tailed).

* Significantly different from zero at the 0.10 level (2-tailed).

Table 7. The Explanatory Power of Future Realized Earnings for Current Stock Prices

Country		Dependent Variables in Regression Equation (6')				
		Book EPS-current	Book EPS-current $t+1$	Book EPS-current $t+1, t+2$	Book EPS-current $t+1, t+2, t+3$	Book EPS-current $t+1, t+2, t+3, t+4$

Panel A: Adjust R^2 for regressions relating book value, current EPS, and future EPS to current prices. Each column represents a separate regression with dependent variables book value, current EPS and EPS for T periods in the future.

Germany	$N = 1{,}454$					
	Regression	Adj. R^2	Adj. R^2	Adj. R^2	Adj. R^2	Adj. R^2
	All years	.37	.39	.39	.39	.39
	Yearly means	.40	.41	.44	.44	.43
Norway	$N = 364$					
	Regression	Adj. R^2	Adj. R^2	Adj. R^2	Adj. R^2	Adj. R^2
	All years	.80	.80	.80	.80	.80
	Yearly means	.59	.62	.64	.65	.66
United Kingdom	$N = 5{,}618$					
	Regression	Adj. R^2	Adj. R^2	Adj. R^2	Adj. R^2	Adj. R^2
	All years	.78	.80	.80	.81	.90
	Yearly means	.73	.74	.76	.77	.77

Panel B: Incremental adjust R^2 for regressions relating book value, current EPS, and future EPS to current prices. Each column represents a separate regression with dependent variables book value, current EPS and EPS for T periods in the future.

Incremental Explanatory Power of Future EPS in Regression (6')

Germany	$N = 1{,}454$				
	Incremental R^2	$R^2_{\text{eps1}\mid\text{b.e}}$	$R^2_{\text{eps2}\mid\text{b.e, eps1}}$	$R^2_{\text{eps3}\mid\text{b.e, eps1-2}}$	$R^2_{\text{eps4}\mid\text{b.e, eps1-3}}$
	All years	.02	.01	.00	(.00)
	Yearly means	.01	.03	(.00)	(.00)
Norway	$N = 364$				
	Incremental R^2	$R^2_{\text{eps1}\mid\text{b.e}}$	$R^2_{\text{eps2}\mid\text{b.e, eps1}}$	$R^2_{\text{eps3}\mid\text{b.e, eps1-2}}$	$R^2_{\text{eps4}\mid\text{b.e, eps1-3}}$
	All years	.00	.00	.00	.00
	Yearly means	.03	.02	.01	(.02)
United Kingdom	$N = 5{,}618$				
	Incremental R^2	$R^2_{\text{eps1}\mid\text{b.e}}$	$R^2_{\text{eps2}\mid\text{b.e, eps1}}$	$R^2_{\text{eps3}\mid\text{b.e, eps1-2}}$	$R^2_{\text{eps4}\mid\text{b.e, eps1-3}}$
	All years	.02	.00	.01	.10
	Yearly means	.01	.01	.01	.01

Notes: $\text{Price}_{it} = a_0 + a_1\text{Book}_{it} + a_2\text{EPS}_{it} + a_3\text{EPS}_{it+1} + a_4\text{EPS}_{it+2} + a_5\text{EPS}_{it+3} + a_6\text{EPS}_{it+4} + e_{it}$ (6')

where:

Price_{it} = price per share of firm i at time t;
Book_{it} = book value per share of firm i at the end of period t;
EPS_{it} = earnings per share of firm i for year t;
EPS_{it+T} = realized earnings per share T periods following time t.

ing stock prices in Germany while explanatory power common to book value and earnings is relatively low.

For Norway the incremental explanatory power of book value, $R^2_{b|e}$, for all years together is 24% and the yearly average is 28%. While there is significant fluctuation in $R^2_{b|e}$ over time (1% to 57%), there appears to be a decline in recent years. Incremental

Table 8. Regressions of Stock Price on Book Value, Current Earnings and Future Earnings (coefficients and White adjusted *t-statistics)*

All years	*N*	*Adj. (R^2)*	*Constant*	*Book*	*EPS*	*EPS_{t+1}*	*EPS_{t+2}*
Panel A: Germany							
Coefficient	2,081	0.408	44.984	1.895***	1.723**	1.219**	0.036
T-statistic			(1.39)	(7.50)	(2.15)	(2.51)	(0.61)
Mean of Yearly Regression							
Coefficient		0.445	66.628***	1.350***	2.403***	1.843	0.385
Time-series *t*-stat			(3.95)	(5.93)	(3.34)	(1.18)	(0.42)
Panel B: Norway							
Coefficient	618	0.782	−2.986	1.459***	3.724***	0.329	−0.529*
T-statistic			(−0.26)	(6.65)	(3.26)	(0.84)	(−1.86)
Mean of Yearly Regression							
Coefficient		0.620	29.135**	1.153***	2.330**	0.041	−0.774
Time-series *t*-stat			(2.77)	(4.40)	(2.92)	(0.06)	(−0.84)
Panel C: United Kingdom							
Coefficient	8,217	0.756	0.013	0.286**	11.493**	−0.043	−0.196
T-statistic			(0.03)	(2.18)	(2.86)	(−0.13)	(−0.87)
Mean of Yearly Regression							
Coefficient		0.756	0.380**	0.393***	5.866***	−0.133	−0.601
Time-series *t*-stat			(2.53)	(5.41)	(4.46)	(−0.23)	(0.14)

Notes: (*t*-statistics) are adjusted for heteroscedasticity using White's adjustment.
The mean coefficient is the time-series average of yearly regression coefficients, and the *t*-statistic is the average coefficient divided by its time-series standard error. The mean R^2 is the average of yearly R^2.

$$\text{Price}_{it} = a_0 + a_1\text{Book}_{it} + a_2\text{EPS}_{it} + a_3\text{EPS}_{it+1} + a_4\text{EPS}_{it+2} + e_{it} \qquad (6')$$

where:

Price_{it} = price per share of firm *i* at time *t;*
Book_{it} = book value per share of firm *i* at the end of period *t;*
EPS_{it} = earnings per share of firm *i* for year *t;*
EPS_{it+T} = realized earnings per share *T* periods following time *t*.

*** Significantly different from zero at the 0.01 level (2-tailed).
** Significantly different from zero at the 0.05 level (2-tailed).
* Significantly different from zero at the 0.10 level (2-tailed).

explanatory power of earnings, $R^2_{e|b}$, is generally low in Norway ranging from 0% to 13% across years. Over all years $R^2_{e|b}$ is only 1% with a 6% yearly average. In contrast to Germany explanatory power common to book value and earnings is much higher, 40% for all years with the yearly average 26%.

In the UK book value has moderate incremental information content. $R^2_{b|e}$ ranges from 0% to 44% across years with 11% for all years together and a 14% for yearly average. There is some evidence of increases in the 1990s. The incremental information in earnings,

Variable	Germany		Norway		United Kingdom
Constant	56.88 ** (2.21)		32.76 * (1.80)		0.30 (0.83)
Book Value	1.91 *** (9.50)	G > N	1.28 *** (4.99)	N > UK	0.53 *** (4.07)
		0.63 * (1.92)		0.75 ** (2.60)	
			G > UK		
			1.38 *** (5.74)		
EPS	1.47 *** (6.34)	G ≈ N	1.34 (1.02)	N < UK	7.67 ** (2.49)
		0.13 (0.11)		6.33 * (1.93)	
			G < UK		
			6.19 ** (2.01)		

Number of observations = 14,643	Adjusted $R^2 = 0.652$	F-stat = 4,537

Notes: The table is constructed from the following regressions:

$$\text{Price}_{it} = a_0 + a_1 DN_{it} + a_2 DU_{it} + a_3 \text{Book}_{it} + a_4(\text{Book}_{it} \times DN_{it}) + a_5(\text{Book}_{it} \times DU_{it}) + a_6 EPS_{it} + a_7(EPS_{it} \times DN_{it}) + a_8(EPS_{it} \times DU_{it}) + e_{it}$$

$$\text{Price}_{it} = a_0 + a_1 DG_{it} + a_2 DU_{it} + a_3 \text{Book}_{it} + a_4(\text{Book}_{it} \times DG_{it}) + a_5(\text{Book}_{it} \times DU_{it}) + a_6 EPS_{it} + a_7(EPS_{it} \times DG_{it}) + a_8(EPS_{it} \times DU_{it}) + e_{it}$$

$$\text{Price}_{it} = a_0 + a_1 DG_{it} + a_2 DN_{it} + a_3 \text{Book}_{it} + a_4(\text{Book}_{it} \times DG_{it}) + a_5(\text{Book}_{it} \times DN_{it}) + a_6 EPS_{it} + a_7(EPS_{it} \times DG_{it}) + a_8(EPS_{it} \times DN_{it}) + e_{it}$$

where:

Price_{it} = price per share of firm i at time t
DG_{it} = 1 for firm i at time t if firm is from Germany, 0 otherwise
DN_{it} = 1 for firm i at time t if firm is from Norway, 0 otherwise
DU_{it} = 1 for firm i at time t if firm is from United Kingdom, 0 otherwise
Book_{it} = book value per share of firm i at the end of period t
EPS_{it} = earnings per share of firm i for year t

***Coefficient is significantly different from zero at the 0.01 level (2-tailed)
**Coefficient is significantly different from zero at the 0.05 level (2-tailed)
*Coefficient is significantly different from zero at the 0.05 level (2-tailed)

Figure 3. Regressions Over All Countries with Dummy Variables and Interactions Terms coefficients and (White's adjusted t-statistics)

R^2_{elb}, is both higher and more stable ranging from 4% to 36% across years with all years together at 22% and the yearly average of 16%. Assuming clean surplus violations are reflected in these results, they are consistent with write-offs of goodwill to reserves dominating asset revaluations in their effects on the value relevance of book value. Explanatory power common to book value and earnings is high, 33% for all years with a yearly average of 43%.

Across time in the UK book value has lower incremental explanatory power than earnings overall, but for the early 1990s, book value dominates. For Germany, earnings have greater explanatory power than book values for the period before 1987. However, for the post 1987 period and overall, book value dominates. Finally, for Norway book value dominates in most years primarily because earnings have little explanatory power at any time.

The following conclusions seem warranted. First, book value has modest incremental explanatory power in the UK, but considerably more in Norway and Germany. Second, EPS has little incremental explanatory power in Norway, but significant incremental explanatory power in the Germany, and even more in the UK (twice the German levels). Finally, over all periods, the explanatory power common to book value and EPS is high in the UK and Norway but near zero in Germany.

Following Collins et. al. (1997) we examine changes in the explanatory power across time of book value and earnings. Table 6 reports these results. The regressions reported in Table 6 regress R^2 statistics on time. The dependent variable for *Total* are R^2 statistics from regression (7) (book value and earnings). The dependent variables for *Incremental* are the incremental R^2 statistics for book value, earnings per share and common explanatory power from Appendix B. In Panel A of Table 6 we examine the three countries separately. Regressions are based on only 15 (14 for Norway) observations. Still, results confirm the visual patterns noted in Figures 1 and 2. For Germany the total explanatory power of book value and EPS is not changing significantly over time. The incremental explanatory power of book value increases significantly while that for EPS decreases. There is no significant change in their common information. For Norway the total explanatory power of book value and EPS decrease somewhat over time. There is no significant change in the incremental explanatory power of book value, EPS, or their common explanatory power over the fourteen years. For the UK there is no change in the total explanatory power of book value and EPS. The incremental explanatory power of book value increases and the common explanatory power decreases significantly over the time period. A decreases in the incremental explanatory power of EPS over time is consistent with increased competition in product markets. Under the residual earnings valuation model, future earnings add to firm value only to the extent that they exceed normal or required returns. One explanation for the observed decline in the explanatory power of EPS (significant for Germany, not significant for Norway and the UK) is that increased global competition reduces expected future excess earnings.[13]

In Panel B of Table 6 we examine all countries together so that there are 44 observations (three countries time fifteen years less 1996 for Norway) with intercept and slope dummy variables for Germany and the UK. For explanatory power of book value and EPS, (the first row) the results show significantly less power in Germany than in Norway (the intercept dummy for Germany is significantly negative), but no significant difference between Norway and the UK. However, total explanatory power is declining significantly in Norway (the time coefficient is significantly negative) but not in Germany or the UK (the interaction slope coefficients are not significant). For the incremental explanatory power of book value, both Germany and the UK have significantly lower explanatory power than Norway (negative intercept dummies), but are increasing over time (positive slope coefficients). For the incremental explanatory power of EPS, both Germany and the UK have significantly more explanatory power than does Norway, with Germany decreasing over time. Explanatory power common to book value and earnings is significantly greater in the

UK than in Norway and Germany with no significant changes over time for any of the countries. These results provide statistical tests of the differences reported in Appendix B and Figures 1 and 2. Note that these regressions test for monotonic time trends, but not for more complex time patterns.

The time patterns revealed in these regressions and in Figures 1 and 2 show a significant increase in the value relevance of book value and a significant decrease in the value relevance of earnings in Germany after 1987. This may be related to German implementation of the European Union's Fourth and Seventh Directives in the Accounting Directives Law of 1985. This Law was effective January 1, 1986, but implementation of some provisions (consolidations) were delayed to 1990 (Harris et. al., 1994). However, the changes in the value relevance of earnings and book value are largely offsetting and total explanatory power of accounting numbers in Germany remains low.

For Norway, there is some evidence of decreasing value relevance over the fourteen-year period. Earnings are never very important and the incremental power of book values is declining. However, even the reduced power is greater than for German accounting. Contrary to our speculation the patterns are not similar to Germany in early years and to the UK in later years. For the UK book value becomes much more important after 1989, and there may be some decline in total explanatory power in the 1990s.

The Explanatory Power of Future Earnings Realizations for Current Prices

Under the residual earnings model (2), firm value is a function of book value and expected future abnormal earnings. In order to assess the importance of future earnings to current market values, we extend the time horizon to include future earnings. We use realized future earnings as proxies for expected residual earnings. We compute incremental explanatory power for future earnings realizations similarly to our computations of incremental explanatory power in Table 5.

$R^2_{f/b,e} = R^2_{b,e,f} - R^2_{b,e}$	The incremental explanatory power of future earnings per share is the total explanatory power of book value, earnings, and future earnings less the explanatory power of book value and earnings alone.

Table 7 reports the results of regressing current book and earnings measures as well as measures of future realized earnings on current stock prices as in equation (6).

$$\text{Price}_{it} = a_0 + a_1\text{Book}_{it} + a_2\text{EPS}_{it} + a_3\text{EPS}_{it+1} + a_4\text{EPS}_{it+2} + a_5\text{EPS}_{it+3} + a_6\text{EPS}_{it+4} + e_{it} \quad (6')$$

We run this model for one, two, three, and four years of future realized earnings. Table 7, Panel A reports adjusted R^2 for regression (6') regressing book value, current EPS, and EPS one to four years ahead on current stock price. Panel B reports the *incremental* explanatory power of future realized earnings one to four years ahead.[14] We conclude that future earnings three and four years ahead have little incremental explanatory power; however, earnings one and two years ahead may have some slight explanatory power for stock prices.

Table 8 reports the results of regression (6') including EPS one and two years ahead for all years together and for yearly averages. Appendix C shows results of yearly regressions.[15] For Germany coefficients on EPS_{t+1} (EPS_{t+2}) are positive in ten (eight) of thirteen years and significantly positive in seven (three). EPS_{t+1} is significant for all years together but not for yearly averages. For Norway, EPS_{t+1} (EPS_{t+2}) coefficients are positive in eight (five) of twelve years but significantly positive in only one (two). Neither EPS_{t+1} nor EPS_{t+2} coefficients are significant over all years together or for yearly averages. For Norway EPS_{t+1} and EPS_{t+2} have little incremental explanatory power. Adding EPS_{t+1} and EPS_{t+2} causes some changes to the coefficients for EPS_t from those reported in Table 5. The coefficient for EPS_t increases, offset by negative coefficients on EPS_{t+2}.

For the UK coefficients on EPS_{t+1} (EPS_{t+2}) are positive in seven (six) of thirteen years but significantly positive in only two (two). Neither coefficient is significant over all years nor on average. Adding EPS_{t+1} and EPS_{t+2} to the regression has some effect on the coefficients for book value and EPS_t. The coefficient on book value declines from 0.5 to 0.3 while the coefficient on EPS_t increases from 7.7 to 11.5.

In summary, our results show that future earnings one and two years ahead have little incremental explanatory power over current earnings and book values. Our results are consistent with those of Bernard (1994) for United States firms where he found that future ROE realizations were not strongly correlated with current stock prices.

Finally, we report in Figure 3 the results of estimating a regression on all countries together. We regress current stock prices on book value and EPS with dummy and interaction variables to allow different responses for each country. The coefficients discussed below are the sums of the coefficients for the base case and the coefficient on the interaction terms. The adjusted R^2 for the regression is 65%. (This is simply the average of the R^2s for each country weighted by the sample size.) The significance levels reported in Figure 3 are for tests of whether the coefficients (or the differences in the coefficients between countries) equal zero.

For book value Germany has the largest coefficient (1.91), significantly larger than Norway (1.28) and nearly four times that in the UK (0.53) against the theoretical value of 1.0. All are significantly different from each other. The weight given to earnings per share is greatest in the UK (coefficient of 7.67), significantly greater than in Germany (1.47) and Norway (1.34) which are not significantly from each other.[16]

SUMMARY AND CONCLUSIONS

In this study we examine the accounting systems in three European countries to assess whether they differ in their value relevance under the residual earnings model. The countries selected, Germany, Norway, and the United Kingdom, differ in the conservatism of their accounting practices as well as in their adherence to clean surplus accounting. The study addresses three questions. First, are there systematic differences across countries in the value relevance of accounting numbers? Second, are there systematic differences in the incremental and relative contribution of book values and earnings to value across the countries? Third, do future realizations of earnings (as proxies for expected future earnings) have information content in explaining current stock prices?

Our results indicate first, that accounting book value and earnings are positively and significantly related to current stock prices across all three countries consistent with Bernard's (1994) results for US firms. German accounting numbers have the lowest correlation with stock prices (R^2 about 40%) compared to Norway and the United Kingdom. United Kingdom accounting numbers have the highest relation with stock prices (R^2 about 70%) with the explanatory power of Norwegian accounting numbers in between (R^2 about 60%). Second, the incremental and relative explanatory power of book value and of earnings differs across time and across the three countries. Book values explain more than earnings in Germany and Norway, but less in the UK. Earnings have little incremental information in Norway. Explanatory power common to book value and earnings is high in the UK and Norway and near zero in Germany. Finally, income realizations for future years have little relation to current stock prices, that is, they explain little about market prices not already explained by current book value and current earnings.

Our results show significant differences in the relation between accounting numbers and stock prices across the three countries. Further, the differences are consistent with the accounting differences across the three countries at the overall level. However, the differences in the relative and incremental information content of book value and earnings-per-share, both within and across countries, do not conform to simple stories based on conservatism and clean surplus violations.

Future research on the value relevance of accounting systems across countries can take several directions. First, additional countries can be evaluated. Second, groupings of countries with particular similarities and differences may allow researchers to distinguish among alternative explanations for observed differences. For example, US and UK accounting is similar on many dimensions but differs on asset revaluation. A study exploiting these facts might provide a better test of the effects of clean surplus violations.

Acknowledgments: We thank Andy Bailey, Neil Fargher, Roger Graham, Dag Michalsen, Dale Morse, Gordon Richardson, Sam Tiras, and workshop participants at the Norwegian School of Management for helpful comments and Svein Morten Damm for data collected for his MSc thesis at the Norwegian School of Management.

Appendix A. Summary of Generally Accepted Accounting Principles in Germany, Norway and UK[17]

Accounting for:	*German GAAP*	*Norwegian GAAP*	*UK GAAP*
Under the descriptions of accounting methods, **B (A)** refers to the IAS *benchmark (alternative)* treatment as report in Price Waterhouse (1995)			
Inventories B: FIFO or weighted average cost A: LIFO	Both. Valuation: Lowest of cost, net realizable value, replacement costs or other lower value permitted by tax rules.	B, A not permitted. Valuation: Lower of cost or market, where market is net realizable value	B, A not permitted. Valuation: Lower of cost or market, where market is net realizable value
Fundamental errors B: Adjust opening balance of retained earnings A: Include correction in net income current period	A, B not allowed	A, B not allowed	B, A not permitted
Research and development costs B: Recognized as assets and amortized (within five years)	Not allowed to recognize research and contracts usually mandatory	B, but not mandatory	B, but development costs, but not mandatory
Construction costs B: Percentage of completion	B not normally allowed, completed contracts usually mandatory	B	B
Deferred tax B: Full deferred tax using the liability method A: Partial provision method	Mixture of deferral and B, optional to recognize tax assets	B, A not permitted. Not allowed to recognize net tax assets.	A, B not permitted
Property, plant and equipment B: Historical cost less accumulated depreciation A: Revalued amount less accumulated depreciation	B, A not allowed cannot revalue to correct for former mistaken downward revaluations) Depreciation: Closely linked to tax rules. Typically reducing balance in the early part of assets lives and switch to straight line later. Accelerated depreciation if possible, affecting profits	B, A allowed under certain conditions. Depreciations: Based on estimates of useful lives. Stright line dominates.	B, A allowed. Many large companies used "modified historical costs." where certain assets as land and building are occasionally revalued. Depreciation: Based on estimates of useful lives. Straight line dominates
Retirement benefit costs: Defined Benefit Plans B: Past service costs, experience adjustments, effects of changes in actuarial assumptions and plan adjustments: recognized as expenses or as income systematically over expected remaining working lives of existing employees	Charged or credited to income[18]	B	B
Retirement benefit costs—actuarial valuation methods B: Accrued benefit valuation method A: Projected benefit valuation method	B, A not allowed, see above	B, A allowed	B, A allowed
Government grants related to assets B: As (a) deferred income in the balance sheet or (b) by deduction in carrying amount of asset	Usually B (b) where subject to tax, but B (a) if tax free.	B	Only B (b) allowed

(*continued*)

Appendix A. (Continued)

Exchanged differences on unhedged foreign currency monetary items B: Recognized in the income statement	Not allowed to credit unrealized gains to income	B, but only for short term current/ items. Not allowed to reecognize unrealized gains on non-current items.	B, unrealized gains are in certain circumstances deferred
Exchange differences on foreign currency monetary items B: Classified as equity until disposal of net investment if part of net investment or hedges net investment	Not allowed, unrealized losses provided for and unrealized gains deferred until realized	B	B
Translation of financial statemnts of foreign operations B: Translation adjustment of integrated foreign operation taken to the income statement	B (no prescribed differentiation between foreign entitles and foreign operations). There are no rules, but temporal method is quite common. Not required to take gains and losses to the income statement.	B, no specific rules/standards	B
Goodwill B: Recognized as assets and amortized over its useful life (normally within five years, if justified within 20 years)	B. but goodwill may be written off to reserves. Maximum amortization period is 15 years. Goodwill is calculated as difference between costs of shares in the subsidiary less book value of its net assets.	B. Goodwill is calculated as difference between costs of shares in the subsidiary less fair valuen of its net assets.	Goodwill is normally written off to reserves. Goodwill is calculated as difference between costs of shares in the subsidiary less fair value of its net assets.
Investments—current investments B: Either (a) market values or (b) lower of cost and market values	B (b) on individual shares, A not permitted	B (b) applied on individual shares or on a portfolio, A not permitted	B (b) applied on individual shares, A not permitted. Market values used with reference to true and fair view
Long-term investments B: Either (a) cost, (b) revalued amounts, or (c) lower of cost or market for marketable equity securities on a portfolio basis	B (a), B (b) not allowed, B (c) not permitted on a portfolio basis	B (a), B (b), B (c) not permitted on a portfolio basis	B (a), B (b), B (c) not permitted on a portfolio basis
Investment properties B: Either as (a) property (see Property, plant and equipment) or (b) long-term investment	B (a), no revaluation allowed	B (a)	B (b), periodic valuation required

Appendix B. Incremental and Relative Information Content of Book Values and Earnings

Year	N	Constant	b_1(book)	b_2(eps)	R^2(b,e)	c_1(book)	R^2(b)	d_1(eps)	R^2(e)	R^2(be)	R^2(eb)	R^2(com)
Panel A: Germany												
All Years	2,716	56.88	1.91	1.47	0.402	1.84	0.356	0.99	0.021	0.381	0.046	−0.025
		(2.21)	(9.50)	(6.34)		(7.81)		(1.40)				
1982	49	85.43	0.33	3.81	0.464	0.55	0.137	4.17	0.417	0.047	0.327	0.090
		(4.75)	(1.78)	(5.46)		(2.55)		(5.98)				
1983	54	103.34	0.35	4.09	0.378	0.67	0.123	4.53	0.348	0.031	0.256	0.092
		(4.30)	(1.79)	(3.03)		(2.66)		(3.33)				
1984	57	120.11	0.28	3.23	0.286	0.69	0.123	3.69	0.271	0.015	0.163	0.108
		(3.96)	(0.88)	(3.11)		(2.41)		(3.97)				
1985	59	36.01	1.11	5.99	0.536	1.92	0.337	7.89	0.450	0.087	0.199	0.250
		(0.79)	(2.66)	(3.17)		(4.65)		(4.41)				
1986	62	73.57	0.16	12.15	0.620	1.78	0.225	12.53	0.619	0.001	0.395	0.224
		(2.08)	(0.41)	(6.86)		(3.44)		(8.91)				
1987	192	68.89	1.11	4.61	0.312	0.79	0.123	3.07	0.093	0.219	0.188	−0.096
		(3.61)	(9.67)	(5.26)		(1.98)		(2.00)				
1988	246	97.14	1.62	−1.01	0.427	1.69	0.419	−2.78	0.068	0.359	0.008	0.060
		(3.20)	(6.91)	(−0.95)		(5.29)		(−1.00)				
1989	264	−34.03	2.83	4.34	0.545	3.12	0.522	11.20	0.186	0.359	0.023	0.163
		(−0.28)	(2.96)	(1.50)		(3.09)		(1.68)				
1990	276	147.42	1.37	3.32	0.350	1.59	0.321	6.95	0.155	0.195	0.029	0.126
		(5.62)	(5.58)	(1.87)		(6.93)		(3.09)				
1991	292	97.17	1.67	1.59	0.377	1.78	0.358	3.20	0.084	0.293	0.019	0.065
		(5.15)	(11.72)	(3.50)		(11.81)		(2.76)				
1992	291	55.08	1.82	1.26	0.355	1.08	0.186	0.21	0.007	0.348	0.169	−0.162
		(2.57)	(9.38)	(9.75)		(2.13)		(1.43)				
1993	282	58.57	2.13	2.12	0.482	2.27	0.443	3.47	0.110	0.372	0.039	0.071
		(2.43)	(9.62)	(2.31)		(8.87)		(2.72)				
1994	287	58.47	2.11	−0.27	0.503	2.09	0.503	1.51	0.026	0.477	0.001	0.025
		(2.68)	(8.93)	(−0.18)		(10.86)		(0.67)				
1995	285	45.24	1.78	2.27	0.550	2.04	0.507	4.81	0.226	0.323	0.042	0.184
		(1.60)	(7.43)	(3.53)		(7.78)		(4.38)				
1996	20	165.49	1.52	1.87	0.238	1.79	0.171	2.45	0.122	0.116	0.067	0.055
		(1.58)	(2.68)	(2.36)		(3.29)		(2.08)				
Yearly Mean		78.55	1.35	3.29	0.428	1.59	0.300	4.46	0.212	0.216	0.129	0.84
T-statistics		(6.32)	(6.61)	(4.15)		(8.63)		(4.39)				

(continued)

Appendix B. (Continued)

Panel B: Norway												
All Years	922	32.76	1.28	1.34	0.646	1.46	0.637	6.26	0.405	0.241	0.009	0.396
		(1.80)	(4.99)	(1.21)		(6.96)q		(3.99)				
1982	63	74.88	1.10	−0.34	0.552	1.05	0.550	3.34	0.243	0.308	0.001	0.242
		(0.96)	(2.66)	(−0.43)		(3.03)		(1.73)				
1983	71	6.69	1.03	7.56	0.808	1.71	0.689	13.02	0.676	0.132	0.120	0.557
		(0.11)	(3.18)	(2.98)		(4.17)		(4.49)				
1984	77	16.93	2.88	−2.76	0.875	2.31	0.835	5.05	0.304	0.571	0.040	0.264
		(0.65)	(10.57)	(−2.95)		(6.90)		(1.84)				
1985	84	86.69	2.24	−0.42	0.690	2.15	0.689	4.20	0.292	0.399	0.002	0.290
		(2.61)	(4.51)	(−0.41)		(5.77)		(2.55)				
1986	63	133.99	−0.38	12.04	0.720	1.03	0.629	9.03	0.713	0.006	0.090	0.623
		(6.80)	(−0.42)	(1.46)		(5.69)		(5.48)				
1987	47	10.10	0.72	0.16	0.684	0.73	0.683	1.84	0.125	0.559	0.001	0.124
		(1.90)	(8.09)	(0.16)		(9.85)		(1.09)				
1988	52	29.17	0.56	−0.20	0.439	0.53	0.436	1.01	0.112	0.327	0.003	0.109
		(3.67)	(3.55)	(−0.27)		(3.99)		(1.27)				
1989	60	55.97	0.33	1.33	0.326	0.45	0.243	1.96	0.221	0.105	0.083	0.138
		(3.95)	(1.48)	(4.30)		(2.00)		(3.51)				
1990	72	20.20	0.78	1.57	0.606	0.80	0.477	1.75	0.160	0.446	0.129	0.031
		(3.09)	(7.72)	(3.70)		(5.71)		(2.58)				
1991	66	15.88	0.81	1.70	0.496	0.84	0.396	1.94	0.131	0.365	0.101	0.031
		(2.23)	(5.45)	(3.14)		(5.45)		(3.36)				
1992	69	16.32	0.52	1.13	0.381	0.58	0.311	1.55	0.138	0.244	0.070	0.068
		(3.60)	(4.70)	(2.59)		(4.90)(		(3.40)				
1993	68	25.94	0.89	2.52	0.539	1.21	0.499	5.82	0.393	0.146	0.040	0.353
		(3.09)	(3.62)	(1.43)		(5.27)		(3.64)				
1994	69	18.24	1.09	0.82	0.568	1.20	0.566	6.59	0.411	0.157	0.002	0.409
		92.68)	(4.32)	(0.39)		(6.51)		(3.82)				
1995	61	27.50	0.68	3.02	0.589	1.10	0.483	4.98	0.475	0.114	0.106	0.369
		(2.86)	(3.41)	(2.45)		(5.22)		(3.92)				
Yearly		38.68	0.95	2.01	0.591	1.12	0.535	4.44	0.314	0.277	0.056	0.258
T-statistics		(3.92)	(4.49)	(2.03)		(7.31)		(4.89)				

(continued)

Appendix B. (Continued)

Panel C: United Kingdom												
All Years	11,005	0.30	0.53	7.67	0.662	0.93	0.442	10.43	0.554	0.108	0.220	0.334
	(0.83)	(4.07)	(2.49)		(3.80)		(3.46)					
1982	302	0.01	0.14	7.33	0.816	0.79	0.666	8.53	0.811	0.005	0.150	0.660
		(0.26)	(1.20)	(4.40)		(11.62)		(12.10)				
1983	312	0.30	−0.60	11.13	0.629	0.68	0.303	7.12	0.574	0.055	0.326	0.248
		(2.56)	(−1.41)	(2.91)		(6.48)		(3.41)				
1984	345	0.24	−0.35	9.67	0.655	0.82	0.382	7.55	0.637	0.018	0.274	0.364
		(2.21)	(−0.77)	(2.37)		(5.04)		3.96)				
1985	351	0.30	0.14	6.68	0.780	0.93	0.684	7.66	0.778	0.002	0.096	0.682
		(6.56)	(1.01)	(8.37)		(12.93)		(19.51)				
1986	378	0.30	0.16	7.11	0.837	0.95	0.732	8.30	0.833	0.004	0.106	0.728
		(7.44)	(1.85)	(9.16)		(12.65)		(21.38)				
1987	730	0.60	0.87	4.51	0.672	1.59	0.579	7.58	0.596	0.076	0.092	0.504
		(3.06)	(4.18)	(1.95)		(8.63)		(3.78)				
1988	991	−0.01	0.61	7.86	0.865	1.50	0.773	11.91	0.832	0.033	0.083	0.740
		(−0.03)	(1.56)	(2.63)		(4.03)		(6.05)				
1989	1,064	−1.28	0.27	17.29	0.857	2.53	0.611	18.69	0.855	0.002	0.247	0.608
		(−2.08)	(0.63)	(4.19)		(2.35)		(5.81)				
1990	1,081	0.67	0.45	3.29	0.876	0.58	0.816	7.90	0.584	0.292	0.060	0.523
		(6.02)	(11.14)	(3.30)		(20.57)		(3.99)				
1991	1,087	0.38	0.80	4.12	0.937	1.03	0.898	11.80	0.675	0.262	0.039	0.636
		(5.09)	(8.87)	(3.64)		(11.71)		(3.47)				
1992	1,020	0.94	0.23	5.41	0.664	0.28	0.461	6.96	0.356	0.308	0.204	0.153
		(8.46)	(8.35)	(4.09)		(6.12)		(4.11)				
1993	996	1.12	0.77	0.76	0.451	0.75	0.414	0.49	0.016	0.435	0.036	−0.021
		(4.85)	(3.72)	(1.85)		(4.29)		(0.49)				
1994	982	1.42	0.55	1.40	0.470	0.51	0.379	0.93	0.041	0.429	0.091	−0.050
		(8.00)	(4.47)	(1.50)		(3.22)		(0.97)				
1995	960	0.91	0.20	7.55	0.651	0.49	0.287	8.69	0.612	0.039	0.364	0.248
		(9.32)	(2.50)	(9.40)		(2.43)		(11.24)				
1996	406	0.92	0.68	4.48	0.611	1.21	0.469	6.69	0.521	0.090	0.143	0.379
		(7.38)	(5.48)	(5.62)		(7.55)		(7.60)				
Yearly Mean		0.46	0.33	6.57	0.718	0.98	0.564	8.05	0.581	0.137	0.155	0.427
T-statistics		(2.77)	(3.05)	(6.20)		(6.73)		(7.31)				

(continued)

Appendix B. (Continued)

Notes: (t-statistics) are adjusted for heteroscedasticity using White's adjustment.

The mean coefficient is the time-series average of yearly regression coefficients, and the t-statistic is the average coefficient divided by its time-series standard error. The mean R^2 is the average of yearly R^2.

$$\text{Price}_{it} = b_0 + b_1\text{Book}_{it} + b_2\text{EPS}_{it} + e_{it} \quad (7)$$

$$\text{Price}_{it} = c_0 + c_1\text{Book}_{it} + e_{it} \quad (8)$$

$$\text{Price}_{it} = d_0 + d_1\text{EPS}_{it} + e_{it} \quad (9)$$

where: Price_{it} = price per share of firm i at time t

Book_{it} = book value per share of firm i at the end of period t

EPS_{it} = earnings per share of firm i for year t

$R^2_{b|e} = R^2_{b,e} - R^2_e$ The incremental explanatory power of book value is the total explanatory power of book value and earnings less the explanatory power of earnings alone.

$R^2_{e|b} = R^2_{b,e} - R^2_b$ The incremental explanatory power of earnings is the total explanatory power of book value and earnings less the explanatory power of book value alone.

$R^2_{com} = R^2_{b,e} - R^2_{b|e} - R^2_{e|b}$ The common explanatory power of book value and earnings is the total explanatory power of book value and earnings less the incremental explanatory power of book value and the incremental explanatory power of earnings.

Appendix C. Regressions of Stock Price on Book Value, Current Earnings and Future Earnings coefficients and (White adjusted *t*-statistics)

Year	*N*	*Adj. R^2*	*Constant*	*Book*	*EPS*	*EPS_{t+1}*	*EPS_{t+2}*
Panel A: Germany							
All years	2081	0.408	44.984	1.895***	1.723**	1.219**	0.036
			(1.39)	(7.50)	(2.15)	(2.51)	(0.61)
1982	47	0.473	95.033***	0.324*	3.742***	3.331**	−3.357***
			(6.28)	(1.86)	(3.77)	(2.12)	(−3.04)
1983	50	0.423	104.263***	0.377*	8.505***	−8.526***	4.283***
			(4.67)	(1.84)	(4.40)	(−2.95)	(2.68)
1984	51	0.327	88.411***	0.442	2.697**	−4.072*	5.149***
			(3.18)	(1.45)	(1.99)	(−1.90)	(3.10)
1985	53	0.612	−4.665	1.22***	−1.662	8.903*	−0.120
			((−0.12)	(2.87)	(−.57)	(1.77)	(−0.04)
1986	60	0.690	61.565*	0.376	5.294	14.842**	−7.534
			(1.84)	(1.18)	(1.48)	(2.25)	(−1.58)
1987	189	0.331	37.658**	1.184***	2.805**	2.171**	1.577
			(2.50)	(11.36)	(2.26)	(2.16)	(1.58
1988	243	0.461	85.612***	1.515***	−0.798	3.629**	−1.615
			(3.25)	(6.53)	(−0.85)	(2.10)	(−0.99)
1989	262	0.573	−80.064	3.102***	2.639	1.034	1.964
			(−0.60)	(3.10)	(1.19)	(1.61)	(1.29)
1990	267	0.356	127.657***	1.505***	2.686*	0.935	−0.191
			(4.50)	(6.66)	(1.83)	(1.50)	(−1.53)
1991	276	0.387	84.222***	1.754***	0.915*	1.034	0.533
			(4.05)	(11.05)	(1.65)	(1.10)	(0.53)
1992	284	0.383	46.739*	1.831***	0.540	1.422**	0.063
			(1.86)	(7.76)	(0.68)	(2.32)	(1.48)
1993	273	0.532	56.720**	1.998***	2.073**	0.503	1.302
			(2.37)	(10.03)	(2.09)	(1.05)	(1.57)
1994	26	0.239	163.019*	1.914***	1.767	−1.248	2.949***
			(1.95)	(4.01)	(1.23)	(−0.91)	(2.59)
Yearly mean		0.445	66.628***	1.350***	2.403***	1.843	0.385
Time-series *t*-stat			(3.95)	(5.93)	(3.34)	(1.18)	(0.42)
Panel B: Norway							
All years	618	0.782	−2.986	1.459***	3.724***	0.329	−0.529*
			(−0.26)	(6.65)	(3.26)	(0.84)	(−1.86)
1982	48	0.855	−58.503*	0.674***	6.054**	2.369**	−0.263
			(−1.95)	(2.60)	(2.42)	(2.44)	(−0.65)
1983	56	0.855	70.780**	1.374***	4.373	0.006	−0.364
			(2.08)	(3.06)	(1.53)	(0.01)	(−0.49)
1984	49	0.838	28.786	2.078***	3.307	0.049	−0.439
			(0.92)	(3.35)	(0.71)	(0.08)	(−0.22)
1985	37	0.753	80.616*	3.258***	−1.706*	3.620	−9.727
			(1.73)	(4.66)	(−1.95)	(1.29)	(−1.16)
1986	28	0.758	62.514*	2.247***	8.158***	−6.247*	−3.522***
			(1.72)	(3.85)	(3.71)	(−1.82)	(−5.74)
1987	44	0.540	12.685***	0.629***	1.194	−0.994*	0.425
			(2.79)	(7.51)	(1.41)	(−1.83)	(1.28)
1988	49	0.556	24.533***	0.508***	0.164	0.378	0.815**
			(2.92)	(2.93)	(0.38)	(1.21)	(2.20)
1989	54	0.205	55.068***	0.303	0.854***	0.846	−0.133
			(3.66)	(1.18)	(2.71)	(1.30)	(−0.26)

(continued)

Appendix C. (Continued)

1990	65	0.523	17.723***	0.843***	1.744***	−0.683	0.733
			(2.95)	(8.14)	3.82)	(−0.97)	(1.14)
1991	62	0.471	19.290***	0.730***	0.337	1.160	0.589
			(2.69)	(5.59)	(0.36)	(1.50)	(0.67)
1992	63	0.358	17.796***	0.545***	0.856	0.754	−0.549
			(3.69)	(3.12)	(1.33)	(0.36)	(−0.45)
1993	63	0.723	18.336***	0.648***	2.627*	−0.769	3.152***
			(2.67)	(3.68)	(1.72)	(−0.85)	(6.10)
Yearly mean		0.620	29.135	1.53	2.330	0.041	−0.774
Time-series *t*-stat			(2.77)**	(4.40)***	(2.92)**	(0.06)	(−0.84)
Panel C: United Kingdom							
All years	8217	0.756	0.013	0.286**	11.493***	−0.043	−0.196
			(0.03)	(2.18)	(2.86)	(−0.13)	(−0.87)
1982	213	0.640	0.046	0.236***	5.543***	0.275	−0.065
			(0.69)	(3.31)	(5.38)	(0.70)	(−0.19)
1983	242	0.555	0.323***	0.145	4.247***	−0.296	0.384
			(3.82)	(1.29)	(4.06)	(−0.35)	(0.48)
1984	256	0.665	0.109	0.376*	2.792*	−1.646**	3.138*
			(0.67)	(1.85)	(1.69)	(−2.03)	(1.91)
1985	261	0.625	0.265***	0.149	6.887***	0.524	−0.594
			(2.74)	(0.98)	(8.16)	(1.16)	(−1.19)
1986	284	0.862	0.264***	0.180*	6.929***	0.017	0.146
			(3.54)	(1.82)	(7.93)	(0.03)	(0.26)
1987	692	0.740	0.780***	1.032***	5.827**	0.878	−3.746**
			(4.07)	(4.06)	(2.37)	(0.42)	(−1.96)
1988	950	0.905	0.234*	0.458*	3.688**	4.452***	−0.988
			(1.66)	(1.90)	(2.02)	(4.03)	(−1.83)
1989	1020	0.910	−1.063***	0.047	21.044***	−5.476***	0.524
			(−2.96)	(0.20)	(6.90)	(−4.52)	(0.52)
1990	1007	0.898	0.565***	0.461***	3.910***	−0.416**	−0.314**
			(5.20)	(12.79)	(3.77)	(−2.27)	(−2.17)
1991	989	0.971	0.601***	0.665***	4.308***	−0.533*	−0.324*
			(4.34)	(7.49)	(3.70)	(−1.82)	(−1.89)
1992	950	0.720	0.823***	0.470***	3.238***	0.388**	−0.118
			(7.56)	(4.39)	(4.47)	(2.42)	(−0.70)
1993	926	0.549	1.080***	0.381**	4.393***	−0.313	1.138
			(6.33)	(2.00)	(4.71)	(−0.65)	(1.18)
1994	427	0.664	0.912***	0.507***	3.721***	0.414	1.616**
			(13.07)	(2.89)	(2.66)	(0.46)	(2.23)
Yearly mean		0.746	0.380	0.393	5.866	−0.133	0.061
Time-series *t-stat*			(2.53)**	(5.41)***	(4.46)***	(−0.23)	(0.14)

Notes: (*t*-statistics) are adjusted for heteroscedasticity using White's adjustment.
The mean coefficient is the time-series average of yearly regression coefficients, and the *t*-statistic is the average coefficient divided by its time-series standard error. The mean R^2 is the average of yearly R^2.

$$\text{Price}_{it} = a_0 + a_1\text{Book}_{it} + a_2\text{EPS}_{it} + a_3\text{EPS}_{it+1} + a_4\text{EPS}_{it+2} + e_{it} \qquad (6')$$

where:

Price_{it} = price per share of firm i at time t;
Book_{it} = book value per share of firm i at the end of period t;
EPS_{it} = earnings per share of firm i for year t;
EPS_{it+T} = realized earnings per share T periods following time t.

*** Significantly different from zero at the 0.01 level (2-tailed).
** Significantly different from zero at the 0.05 level (2-tailed).
* Significantly different from zero at the 0.10 level (2-tailed).

NOTES

1. In a study of the effects of Spanish accounting reform, Giner and Rees (1997) find that a model relating firm value to book value and earnings explains about 59 percent of variation in firm value during the period 1986–1995. Further, the coeffients on book value and earnings are similar to those found by Rees (1997) for UK firms.
2. Choi and Levich (1991 p. 7–16) quote the following remark by an investment manager: "Comparisons are more feasible for a US company, a UK company or an Australian. Scandinavia is improving. The Japanese companies are a nightmare. In Europe, even within countries, there may be significant differences in reporting. As a general rule, in Europe, the closer you get to Switzerland, the worse the financial reporting becomes." After discussing the consequences of the link between tax accounting and financial accounting in Germany, Haller (1992 p. 322) concludes, "German commercial financial statements can hardly be correctly interpreted, even by a person with a sound and comprehensive knowledge of German tax law."
3. Using models other than the residual earnings framework, researchers have examined whether different accounting practices lead to a different relation between earnings and stock returns. For example, Pope and Rees (1994) find systematic differences between UK and US firms in the earnings-returns relation that they attribute to accounting differences.
4. "The undervaluation of assets for tax reasons tends to lead to a more pessimistic presentation of the financial position and economic situation of a company than the very strong principle of prudence already does." Haller (1992 p. 320).
5. Data for years 1982-1986 are from a data set collected by Svein Morten Damm for his Masters thesis at the Norwegian School of Management (1996). Data for the years 1987-1996 are extracted from the Worldscope database. The January 1997 *Worldscope* database used for this study has incomplete data for 1996, there are few observations for Germany, none for Norway, and about half of the total for the UK. We repeated the analysis in this study excluding the 1996 observations and found no qualitative differences.
6. Firms with negative earnings are also omitted for the period 1982–1986. Our primary database (*1997 Worldscope Global Researcher*) includes data back to 1987. We extend our sample period four additional years by using data from *Data Stream* from Damm (1996). Firms with negative earnings were omitted in his study.
7. As noted by Lundholm (1995) Feltham and Ohlson's measure of conservatism does not allow for asymmetry in accounting measurement. Accounting practices in Germany and most other countries are asymmetric in the sense that declines in asset values tend to be reflected more quickly that increases. This bias could reduce the empirical prediction power of the model.
8. Easton et. al. (1993) show asset revaluations have information content for firm values for Australian companies.
9. The coefficients b_2 and d_1 in equations (7) and (9) are *not* equal to the a_2 coefficient in equation (6). The earnings proxy used in equations (7) and (9) is reported earnings rather than expected abnormal earnings. Abnormal earnings are defined in equation (4) as the difference between expected earnings and the required return. The exact relationship in the coefficients in equations (7) and (9) relative to that in equation (6) is difficult to specify. However, it is easy to show that b_2 and d_1 must be smaller than a_2.
10. All of the analyses in this paper were repeated with return on equity (ROE) replacing EPS. ROE has slightly lower explanatory power than does EPS, but the time trends and the differences across countries are similar.
11. Theil (1971, pp. 167–171) shows that where the independent variables are not orthogonal, the sign of the difference between total R^2 (R^2b,e) and the sum of the incremental R^2s ($R^2e|b$ + $R^2b|e$) is not determined. That is, R^2com may be either positive or negative.

12. There is potential cross-sectional correlation in the residuals in the pooled (all years) regression. This could cause OLS estimates of standard errors of coefficients to be biased. Hence, we compute average yearly coefficients, significance levels, and R^2. For Germany, there are some differences between the pooled regressions and the yearly averages. For Norway and the UK, however, total and incremental explanatory power are quite similar between the two estimates.
13. We thank Dale Morse for suggesting this interpretation.
14. The results reported in Table 5 are for regressions for the subset of firms with observations for all four periods of future realized earnings. We repeated the analysis for the complete sets of firms with future earnings one, two, and three years ahead. The results are unchanged.
15. We computed diagnostics for multicollinearity in the independent variables for the regressions. There is indication of mild collinearity between current EPS_t and future earnings per share, EPS_{t+1} and EPS_{t+2} in Germany. The condition indexes were greater than 15.0 in four of thirteen years. Over all years, however, the condition index is less than 4.0 for Germany as well as for the other countries. Therefore, multicollinearity in the earnings variables cannot explain the consistent lack of explanatory power of future earnings for current stock prices.
16. Harris et. al. (1994) find that both earnings and book value multiples are higher for Germany than US multiples.
17. The table is based on *Financial Reporting—An International Survey* (Price Waterhouse, May 1995), Christopher Nobes, *International Guide to Interpreting Company Accounts—overcoming disparities in national accounting procedures* (Financial Times Management Reports, FT Business Enterprise Ltd, 1994).
18. In Germany, it is not necessary to set up accruals for pension obligations arising prior to 1987 or for non-binding commitments based on practice. As a consequence, there may exist large pension liabilities that do not show up on the balance sheet (the amounts should be disclosed in notes). Usual practice for accrued pension is to cover the liabilities by internal provisions, and not by transfers to separate plans or insurance companies. Thus, pension moneys may provide a substantial financing of a company. Restrictions in the tax rules do also imply that pension liabilities may be understated.

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The International Journal of Accounting

Budgeting and Standard Costing Practices in New Zealand and the United Kingdom

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Key Words: Budgeting, Standard-costing, Management accounting practice

Abstract: *The findings of a survey of budgeting and standard costing practices in New Zealand (NZ) and United Kingdom (UK) manufacturers are reported. The results suggest that some commentators' predictions of a denise in standard costing and variance analysis are overstated. It has been found that standard costing systems continue to be popular and that the majority of accountants surveyed do not envisage abandonment of standard costing and variance analysis in advanced manufacturing technology environments. Comparisons between budgeting and standard costing practices used in NZ and the UK reveal a high degree of consistency. In the case of the few differences that have been observed, it appears that there is a greater lag behind prescribed practice amongst NZ manufacturers. The main differences noted are: a greater proportion of performance reports used in NZ budget centers fail to distinguish between controllable and non-controllable costs; NZ manufacturers are more reliant on historic data when setting standard costs; when distinguishing between variable and fixed costs, there is a greater tendency in NZ to simply treat direct costs as variable and overhead costs as fixed.*

Many recent management accounting commentaries are suggestive of a profession under siege (Kaplan 1988, 1990; Johnson & Kaplan 1987; Cooper, 1990). Johnson and Kaplan (1987) have coined the damning indictment "lost relevance," epitomising a widely-held perception that management accounting has failed to evolve in a manner compatible with a changed technological and competitive environment.[1] This failure signifies that internal accounting information might be frequently inaccurate and misleading. Debate over the extent to which management accounting might suffer from diminished relevance appears to have triggered a burgeoning interest in surveys of management accounting practice, e.g., Bright et al. (1992) and Drury and Tayles (1994) in the United Kingdom; Emore and Ness (1991), Green and Amenkhienan (1992) in the United States; Joye and Blayney (1990) in Australia; Yoshikawa et al. (1989) in Japan.

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The International Journal of Accounting, Vol. 33, No. 5, pp. 569-588 **ISSN: 0020-7063.**

The primary orientation in this stream of research can be characterized by a concern with costing practices and, most notably, overhead cost allocation practices. Given the considerable attention commanded by the potential of "activity-based costing" in the new manufacturing age (Cooper and Kaplan, 1988; 1992), this predisposition in empirical studies of practice is understandable. Costing techniques are not the only management accounting practices that might be affected by a changed manufacturing environment, however. Several commentators have predicted a reduced role for standard costing and variance analysis (e.g., Kirwan, 1986; McCosh, 1986; Neuman and Jaouen, 1986; Sakurai, 1989). It is claimed that the growing significance of fixed costs and the introduction of advanced manufacturing technologies will render variance analysis an increasingly inappropriate mode of control. Management control innovations such as target costing (Hiromoto, 1988; Kato, 1993) may also, in some companies, result in a changed approach to budget and standard-setting. Such significant changes underway in the management accounting environment highlight the importance of monitoring developments in budgeting and standard costing practice. This view is reinforced when we consider earlier empirical research highlighting extensive use of budgeting and standard costing systems (Puxty and Lyall, 1989; Cornick et al., 1988; Cress and Pettijohn, 1985; Scarborough et al., 1991; Schwarzbach, 1985). Recognition of the significant roles that budgeting and standard costing have played in organisational control as well as the potential implications that a changing context may carry for these management accounting practices provided impetus for the study of standard costing and budgeting reported herein.

A further motivation for the work derives from the paucity of prior research directed explicitly towards benchmarking management accounting practices employed in one country with those applied in another. Using a single survey instrument as the basis of data collection, this paper presents the results of a comparison of New Zealand (NZ) and United Kingdom (UK) budgeting and standard costing practices. Benchmarking the accounting practices of these two countries would appear to be appropriate given their historically strong political, cultural and trading links.

A study concerned with NZ budgeting and standard costing practices appears to be particularly timely. Over the last 15 years there has been considerable change in the NZ commercial and economic environment. Since 1984 the government has freed prices, wages and interest rates, floated the exchange rate, progressively removed tariffs and subsidies, deregulated the financial system, reduced income tax rates, and encouraged overseas investment in NZ. Spicer et al (1991) sees these NZ developments as more radical than in any other industrialized country. There is a widely-held view that these changes have engendered a more competitive commercial environment in NZ. One might expect this development to be manifested by significant deployment of advanced manufacturing technologies as well as management systems appropriate to the changed manufacturing context.

Given the broadly similar professional and academic accounting training in NZ and the UK, any identification of differences between the two countries might stimulate further inquiry into what contingency factors lie behind these differences as well as commentary concerned with the relative sophistication of accounting practices employed in the two countries. The specific research aims are twofold:

1. to update our understanding of the extent to which budgeting and standard costing practices are employed by UK and NZ manufacturers;
2. to compare budgeting and standard costing practices across the two countries using a more rigorous research design than that employed in prior work offering cross-country comparative comment.

The remainder of the paper is organized as follows. The next section describes the research design. This is followed by a review of the survey's findings which are considered in the context of prior theoretical and empirical work. The concluding section provides an overview of the study's most significant contributions.

SURVEY DESIGN AND SAMPLE

A review of the literature reveals a paucity of research directed explicitly towards providing cross-country comparison of management accounting practices. What little has been achieved in this area has tended to involve synthesizing the results of prior survey research. This approach is evident in Drury and Tayles' (1995) commentary which draws on survey findings in the UK (Innes and Mitchell, 1991; Bright et al., 1992; Drury et al., 1993), USA (Emore and Ness, 1991; Cohen and Paquette, 1991; Green and Amekhienan, 1992), Belgium (Kerremans et al., 1991), Sweden (Ask and Ax, 1992), Japan (Yoshikawa et al., 1989) and Australia (Joye and Blayney, 1990). Cross-country comparisons of management accounting practice can also be found in widely-used textbooks. For example Horngren et al (1994, p.232) report the level of standard costing applied in five countries by drawing on the findings of Cornick et al. in the United States (1988), Clarke (1992) in Ireland, Drury et al. (1993) in the United Kingdom, Ask and Ax (1992) in Sweden, and Scarborough et al. (1991) in Japan. A significant shortcoming of these comparisons becomes apparent, however, when it is recognized that they are no more than a collation of independently conducted surveys. The potential for significant differences in methodology across surveys is considerable and the actual survey methodology used carries major implications for reported findings. Cross-study differences on factors such as sampling procedures, size of company surveyed, title and relative seniority of respondents, phraseology of questioning, types of measures (e.g., Likert scales vs. categorical measures) etc., represent a significant threat to the validity of collating the results of independently conducted surveys. No attempt to investigate and control for such survey differences has been found in these syntheses of prior survey findings.

A research design that attempts to circumvent these shortcomings has been employed in this study:

1. the same survey instrument, covering letter and survey administration procedures have been used,
2. in the analysis of results, a comparison has been made of NZ and UK companies matched by size.

For the UK, the initial sampling frame comprised all companies identified in a CD-ROM database as having substantial manufacturing, producing or processing activities and also

Table 1. Summary of Survey Reply Pattern

	Questionnaires mailed	*Responses*	*Unadjusted responserate*
New Zealand	268	85	32%
United Kingdom	1269	303	24%

Table 2. Industry Classification of All Respondents

	NZ%	*UK%*
Chemicals & Plastics	21	26
Engineering/Industrial	20	27
Textiles	18	4
Food	13	9
Building	12	6
Paper & Packaging	10	5
Electrical	3	15
Motor Vehicles	3	6
Tobacco	0	1
Oil & Gas	0	1
	100	100
n	**61**	**303**

a five-year average sales turnover exceeding 10 million pounds. This sampling frame was then refined to include operating divisions and plants with distinct activities and where the divisional accountant was a qualified member of one of the main accounting bodies. This refined sampling process resulted in the identification of 1,269 accountants, of whom 303 responded to questionnaires mailed (an unadjusted response rate of 24%). The 303 respondents represent 260 separate companies, i.e., 35% of sampled companies. Following Armstrong and Overton (1977), in order to test for non-response bias, a comparison of the data provided by early and late respondents in both countries has been conducted for the variables referred to in Tables 3-14 below. At the five percent level of confidence, no statistically significant differences between the early and late respondents are evident.[2] The potential for a non-response bias in the UK data has also been investigated by comparing the sales turnover and industrial classification of the responding organizations with those of the sample population. The Kolmogorov-Smirnov test was used. There was no evidence of any response bias with respect to size or industry ($p < .05$).

Considerable care has been taken to apply, as far as possible, the same survey administration procedures in NZ. Changes made to the questionnaire used in NZ were limited to those necessitated by regional factors (e.g., UK pounds translated to NZ dollars).[3] The initial sample frame for the NZ sample comprises the top 500 manufacturing companies identified by the New Zealand Manufacturer's Association. Consistent with the UK procedure, the criterion that all respondents hold a professional accounting designation was applied.

268 qualified accountants holding a senior position at the divisional or plant level were identified. Of this sample, 85 responded to one of the two questionnaire mailings conducted, an unadjusted response rate of 32%. The 85 respondents represent 81 separate companies, i.e., 42% of the 195 New Zealand manufacturing companies sampled.

Table 1 provides a summary of the number of questionnaires mailed and response rates for the two countries. In addition to the respondents referred to in Table 1, nine further members of the NZ sample responded indicating that they were unwilling to participate in the study. None of the quoted reasons for non-participation give rise to a concern for non-response bias. 37 of the NZ non-respondents were contacted by phone in order to determine their reason for non-participation. Again, none of the reasons cited suggest a systematic difference between respondents and non-respondents. The most widely cited reasons were "too busy" (24 cases), "questionnaire too long" (5 cases), and "contravenes company policy" (4 cases). The potential for a non-response bias in the NZ data has also been investigated by comparing the sales turnover and industrial classification of the responding organizations with those of the sample population. At the five percent level of confidence, no statistically significant differences have been observed. As an indication of the genuine manner with which respondents treated the survey, 43% of the UK respondents and 35% of the NZ respondents indicated a willingness to meet and discuss issues raised in the questionnaire.

Table 2 summarizes the industrial groups represented by the two samples. The decision was taken not to attempt to achieve matched representations of the industrial groupings for the two countries, as this would detract from our objective of gaining an appreciation of the budgeting and standard costing practices in the manufacturing sector of each economy. Subsequent data analysis has failed to reveal any systematic relationship between industry and budgeting and standard costing practices.[4]

As noted above, a comparison of data collected in the two countries has been made at two levels. The first level is based on the entire data set, and the second is limited to companies of a similar size. Previous work (e.g., Drury and Tayles, 1994), provides a strong suggestion that company size is positively related to management accounting sophistication. As the bulk of the UK firms are larger than NZ firms, one would anticipate that a raw cross-country comparison that fails to take into account company size differences would result in a potentially misleading observation suggestive of greater budgeting and standard costing sophistication in the UK.

Size has been measured in terms of annual sales. As the majority (85%) of the NZ sample comprise companies or business units with an annual sales turnover less than $75 million, this level of sales, which approximated 30 million pounds at the time of the study, has been used as the qualifying upper threshold for inclusion in the matched sub-samples. In addition, a minimum annual sales criterion has been employed. Four of the companies/business units sampled from NZ manufacturers had annual sales levels below the smallest sales level of companies/business units sampled in the UK. These four companies/business units have not been included in the matched sub-samples. In summary, therefore, the cross-country comparison of budgeting and standard costing practices has been conducted at two levels:

1. The entire data set, i.e., the 85 NZ accountants and the 303 UK accountants who completed and returned the questionnaire.

Table 3. Techniques Used to Forecast Budgeted Sales Levels

	Full sample		*Matched sample*	
	NZ mean	*UK mean*	*NZ mean*	*UK mean*
Subjective estimates based on experience of staff	4.30	4.24	4.31	4.53
Market research	2.85	3.13	2.84	2.58
Statistical forecasting	2.64	2.93	2.59	2.79

Notes: No statistically significant cross-country differences noted in Table 3.
On a scale ranging from "1" (never) to "5" (always), respondents indicated the extent to which each technique referred to in Table 3 is used by their company when forecasting budgeted sales revenue.

2. The sub-sample of NZ and UK respondents who represent companies with an annual sales turnover that falls within the range of 25-75 million dollars (48 NZ accountants and 47 UK accountants).

SURVEY RESULTS

At the outset of this section concerned with the study's findings, it is salient to highlight the extent to which budgets are used in practice. In their study of 453 UK companies, Puxty and Lyall (1989) found that 94% of their sample used budgetary control systems. While no question explicitly designed to determine the extent of budget use was included in this study's survey instrument, over 95% of UK respondents and more than 98% of NZ respondents completed that part of the questionnaire concerned with budgetary practices. From this we conclude that budgetary control systems continue to be employed in virtually all large NZ and UK manufacturing companies. The findings in the remainder of this section are organized under the following headings: "Technical aspects of budget-setting," "Budget participation," "Use of the budget in performance measurement," "Standard costing and variance analysis."

Technical Aspects of Budget-Setting

Fundamental to budget setting is the sales mix and volume forecast. Commentators highlighting the importance of the forecasting role of the budget include Samuelson (1986), Imhoff (1986) and Lyne (1988). Imhoff found that companies often take up to four months to complete the forecasting process and that sales forecasts are revised an average of five times. Lyne (1988), in connection with his empirical study that provided support for the view that forecasting is the most important role of the budget, notes that little has been written on the budget's forecasting and planning roles. He suggests that this may be because they are of such fundamental importance.

Table 3 presents findings concerned with techniques used in sales forecasting. On a five-point categorical scale ranging from "1" (never) to "5" (always), respondents were asked to indicate the extent to which they used each of the three techniques referred to in the table when forecasting sales revenue. Regardless of whether the comparison is conducted at the full or matched sub-sample level, the approach to sales estimation is similar in both countries. "Subjective estimates based on experience of staff" ranks as the most popular tech-

Table 4. Techniques Used to Classify Fixed and Variable Cos

	Full Sample		*Matched Sample*	
	NZ%	*UK%*	*NZ%*	*UK%*
Statistical regression techniques	0	2	0	2
Classification on a subjective basis based on managerial experience	40*	58	33**	51
All overheads are classified as fixed costs and direct costs are classified as variable costs	44*	28	50**	33
Fixed and variable costs are not separated	16	10	17	14
Other	0	2	0	0

Notes: * Statistically significant cross country difference (Chi-square; $p < 0.01$)
** Statistically significant cross country difference (Chi-square; $p < 0.10$)
Respondents indicated which of the techniques referred to in Table 4 best describes the approach their company uses for separating fixed and variable costs.

nique with "Market research" and "Statistical forecasting" ranking second and third respectively.

A second factor pertinent to budget setting is the need to segregate fixed and variable costs. Karmarkar et al. (1989) conducted a survey in the U.S. and found that 77% of manufacturing sites classify costs into fixed and variable components. Broadly similar to this finding, in this study it has been found that 84% of the NZ sample and 90% of the UK sample segregate fixed from variable costs. While "classification on a subjective basis based on managerial experience" and "treating all overheads as fixed and all direct costs as variable" are the two most popular approaches, a statistically significant difference in the extent to which they are employed across the two countries has been found. In the UK the former is more popular, while the latter is more popular in NZ.

A further noteworthy result reported in Table 4 is the minimal extent to which statistical analyses are used in the fixed/variable cost classification exercise. None of the NZ companies surveyed employed statistical regression techniques and only 2% of UK firms used the technique. It appears that the relative usage of these techniques has not grown since Karmarkar et al's study conducted in 1989 reported a 5% adoption rate amongst US manufacturers. In light of the growth of management education as well as computing power available to companies, it is perplexing to observe that there has been minimal development in the area of statistical approaches to cost classification. This concern with low computer application is also apparent from the low ranking attached to statistical forecasting in budgeted sales estimation (see Table 3).

Budget Participation

Budget participation has received considerable attention from behavioural accounting researchers. Early studies provided conflicting findings on the significance of budgetary participation. Stedry (1960) and Cherrington and Cherrington (1973) reported a negative relationship between budget participation and performance while Merchant (1981) and Brownell (1982) found a positive relationship. Following the introduction of mediating variables and the contingency research paradigm, Birnberg and Sadhu (1986) cite evidence

Table 5. Areas of Influence Determining Authorized Expenditures for Budget Centres

	Full sample		*Matched sample*	
	NZ mean	*UK mean*	*NZ mean*	*UK mean*
Senior Management	4.67	4.58	4.65	4.67
Budget Holders	3.64	3.89	3.63	3.68
Departmental Managers	3.52	3.57	3.54	3.40
Accounts/Budget Staff	3.29	3.30	3.29	3.38
Supervisors	2.33	2.09	2.30**	1.87

Notes: ** Statistically significant cross-country difference (Mann Whitney U; $p < 0.10$)
On a five point scale labeled "1" (not important), "2" (below average importance), "3" (average importance) "4" (above average importance) and "5" (vitally important), respondents indicated the level of influence experienced by each of the groups referred to in Table 5 when determining budget centres' authorized expenditure levels.

suggesting that budget participation is beneficial where budgetees believe they can influence outcomes (Brownell, 1982), are willing to take the opportunity that participation affords (Swieringa and Moncur, 1975) and are not too risk averse (Young, 1985).

Cress and Pettijohn (1985) surveyed 219 publicly traded US companies and found that in 79% of the companies surveyed, lower-level managers have a significant role in both the initial and revision stages of budget preparation. Shields and Young (1993) found that participative budgeting is used more frequently when lower-level managers have more knowledge than central management and also when part of the manager's remuneration package is linked to budget performance.

Tables 5 and 6 report findings relating to two different dimensions of budgetary participation examined in this study. Table 5 is concerned with the degree of influence carried by five different organizational positions in the budget setting exercise. Respondents to the survey indicated the relative importance of each area on a five point scale labelled: "1" (not important), "2" (below average importance), "3" (average importance), "4" (above average importance) and "5" (vitally important). In both countries, "Senior management" achieved the highest rating with a mean score approaching the maximum of the scale. This might suggest that a "top-down" philosophy tends to predominate. This view should be qualified, however, as individuals with other organizational titles appear to also exert influence in budget-setting. "Budget holders" rank second with a mean score in the high "3's," (ie., approaching "above average importance"), and, in addition, four of the five organizational areas examined have mean scores above the mid-point of the range (ie., above "average importance"). This suggests that while the final ratification of the budget comes from senior management, several other parties play influential roles in the budget-setting process. The only suggestion of a cross-country difference arises with respect to supervisory influence. While achieving the lowest ranking in both countries, the mean score recorded for the NZ matched sub-sample is significantly greater than that for the UK matched sub-sample. If there is a systematic difference between the two countries with respect to this aspect of budget-setting, we would expect to see the same result appearing when the two countries' full samples are considered. As this is not the case, and no strong rationale has been developed to explain this result, we believe the observation should be viewed as a statistical artefact of the data collected.

This view of the budget setting exercise as a reconciliation of several influences, or a negotiation process is further reinforced by the findings reported in Table 6. This table pre-

Table 6. Approach to Managing Excessive Budgeted Cost Estimates

	Full sample		*Matched sample*	
	NZ%	*UK%*	*NZ%*	*UK%*
Automatic decrease by a fixed %	0%	3%	0%	0%
Reduction by amounts that upper management deem appropriate	38%	40%	37%	45%
Reduction through negotiation between manager and superior	62%	57%	63%	55%

Notes: No statistically significant cross-country differences noted in Table 6.
Respondents indicated which of the three approaches referred to in Table 6 best describes their company's most frequent action when cost estimates submitted by managers are perceived by superiors to be excessive.

Table 7. Perceived Propensity to Create Budgetary Slack

		Strongly agree	*Disagree*	*Uncertain*	*Agree*	*Strongly agree*
Budget holders should not have too much influence in determining their own budgets because there is a danger that they will seek to obtain easy budgets.	NZ full sample	19%	45%	9%	27%	0%
	UK full sample	21%	48%	7%	22%	1%
	NZ matched sample	21%	36%	11%	32%	0%
	UK matched sample	28%	33%	10%	29%	0%

Notes: No statistically significant cross-country differences noted in Table 7.
Respondents indicated how much they thought their company's budgetary control philosophy agrees with the statement presented in Table 7 by highlighting one of the five possible responses appearing as column headings in the Table.

sents the results of asking respondents to identify which of three possible responses best describes their company's most frequent action when cost estimates submitted by managers are perceived by their superiors to be excessive. In both countries "reduction through negotiation between manager and superior" is the most popular organizational response to this situation. The autocratic response of an "automatic decrease by a fixed percentage" appears to be little-used in either country, however it should be noted that approximately 40% of respondents see "reduction by amounts that upper management deem appropriate" as the main organizational response. Considered holistically, Tables 5 and 6 provide little suggestion of any systematic differences in budgetary participation between the two countries.

A shortcoming of increased budget participation arises due to the opportunity provided for the budgetee to create budgetary slack (Merchant, 1985). In light of the relatively high budget participation levels revealed by the study, it is pertinent to examine the extent to which budgetary slack is perceived to be a problem. This issue has been addressed by asking respondents to indicate the extent to which their company's budgetary control philosophy agrees with the view that "Budget holders should not have too much influence in determining their own budgets because there is a danger that they will seek to obtain easy budgets." Respondents indicated their answer on the following five point scale: "1" (strongly disagree), "2" (disagree), "3" (uncertain), "4" (agree), "5" (strongly agree). No

Table 8. Degree of Emphasis Placed on the Budget in Managerial Performance Appraisal

		Not important	*Below average importance*	*Average importance*	*Above average importance*	*Vital importance*
Importance of variances from budget/standard in managerial performance appraisal.	NZ full sample	0%	7%	22%	45%	26%
	UK full sample	1%	4%	14%	39%	28%
	NZ matched sample	0%	8%	16%	41%	35%
	UK matched sample	2%	26%	26%	41%	31%
		Strongly agree	*Disagree*	*Uncertain*	*Agree*	*Strongly agree*
Top management should judge a manager's performance mainly on his/her ability to attain the budget.	NZ full sample	5%	39%	14%	37%	5%
	UK full sample	3%	37%	14%	40%	6%
	NZ matched sample	4%	26%	13%	53%	4%
	UK matched sample	0%	41%	10%	39%	10%

Notes: No statistically significant cross-country differences noted in Table 8.
Respondents answered the question: "How important do you think variances from budger/standard are in judging managerial performance?" using the 5 point scale appearing as column headings in the upper panel of in Table 8.
Views towards the statement presented in Table 8's lower panel were recorded by selecting one of the five responses presented as column headings in the lower panel..

significant differences have been observed across the two countries; the NZ sample recorded a mean of "2.45" and the UK sample a mean of "2.33." The distribution of responses to this question are presented in Table 7. The majority of respondents do not perceive propensity to create slack as a significant problem. However, it should be noted that approximately a quarter of respondents in both countries see the propensity to create slack as a danger in the presence of budget holder budget participation.

Use of the Budget in Performance Measurement

Dating back to the seminal works of Hofstede (1968) and Hopwood (1972), there has been a significant stream of research concerned with the implications and antecedents of the degree of emphasis attached to the budget in performance measurement. The extent of interest commanded by this research endeavour is such to warrant Brownell and Dunk describing it as: "....the only organized critical mass of empirical work in management accounting at present" (1991; 703). For an extensive critical review of the achievements of this literature, see Briers and Hirst (1990).

The survey questionnaire included a question designed to appraise the importance of budgets in performance measurement and also a question focusing on attitudes towards the use of the budget in this manner. The first question asked "How important do you think variances from budget/standard are in judging managerial performance?." Responses were recorded on a scale ranging from "1" (not important) to "5" (vitally important). The second question asked respondents to indicate on a scale ranging from "1" (strongly disagree) to "5" (strongly agree), the extent to which their budgetary control philosophy adheres to the view that "Top management should judge a manager's performance mainly on his/her ability to attain the budget." The distribution of responses relating to these two questions are presented in Table 8.

The response pattern for these two questions is similar for the NZ and UK samples, with no observed statistically significant differences in the mean scores for the two countries. Accountants in both countries tend to see variances from budget as being important. Seventy-one percent of the NZ sample and 67% of the UK sample see the variances as being of either "above average importance" or "vitally important" to performance appraisal. A second observation common to both countries is the wide dispersion of views with respect to whether performance should be based mainly on budget achievement. While 42% of the NZ sample and 46% of the UK sample agreed with the view that top management should judge performance mainly on ability to attain the budget, 44% of the NZ sample and 40% of the UK sample disagreed with these views. The significant recent attention commanded by the "Balanced Scorecard" philosophy (Kaplan and Norton, 1992), may account for some of those opposed to the use of the budget as the main basis for performance measurement.

A further factor appraised by the survey questionnaire and relating to performance appraisal is the design of budget holders' performance reports. The normative literature outlines a rationale defending the inclusion of allocated costs, even though the departmental manager may exercise minimal control over these costs (see Demski, 1976). It is held that this practice draws the departmental manager's attention to those costs and that he/she may be able to influence some actions designed to reduce such costs. The normative literature also strongly recommends, however, that a clear distinction be made between controllable and non-controllable costs (Drury, 1992; Horngren et al., 1994).

Respondents to the survey were asked to indicate which of four statements best characterizes the content of performance reports received by budget holders in their company. These four statements, together with the response distribution are presented in Table 9. The single most popular approach for the NZ manufacturers is a report that records both controllable and non-controllable costs but fails to distinguish between the two. For both the full and the matched sub-samples it appears this approach is used more amongst NZ manufacturers. The most widely used approach in the UK, however, (and used statistically significantly more than in NZ) involves reporting both controllable and non-controllable costs but distinguishing between the two categories in the performance report. These findings suggest a greater propensity in NZ to employ theoretically deficient performance report designs. This observation will be commented upon further in the concluding section.

A final aspect of budgetary performance measurement appraised in the survey concerns the incidence of flexible budgeting. In an earlier UK study, Puxty and Lyall (1989) report a flexible budget usage rate of 20%. Cress and Pettijohn's (1985) US study found that 48% of companies use flexible budgets for manufacturing costs but only 27% use flexible budgets for distribution, marketing, R&D, or general and administrative expenses. In our survey, no analysis by function was made, respondents were simply asked to indicate whether their company uses flexible budgets when comparing actual with budgeted costs. From the results reported in Table 10, it can be seen that, relative to NZ, a statistically significantly greater proportion of UK manufacturers employ flexible budgeting. This difference appears to be driven more by a "company size effect" rather than a "country effect," as no statistically significant difference is noted when the matched samples are compared. The finding that 42% of UK manufacturers use flexible budgeting resembles more the finding

Table 9. Style of Performance Reports Received by Budget Holders

	Full sample		*Matched sample*	
	NZ%	*UK%*	*NZ%*	*UK%*
Only costs controllable by the particular manager are presented.	26	23	21	19
Both controllable and non-controllable (e.g. Allocated) costs are presented, but they are distinguished.	31*	52	33**	53
Both controllable and non-controllable costs are presented but they are not distinguished.	40*	23	42**	23
Budget holders do not receive performance reports.	3	2	4	5

Notes: * Statistically significant cross-country difference (chi-square $p < 0.01$)
** Statistically significant cross-country difference (chi-square $p < 0.1$)
Respondents were asked to indicate which of the four statements listed in Table 9 best characterises the content of performance reports received by budget holders/departmental managers.

Table 10. Flexible Budget Usage

	Full sample		*Matched sample*	
	NZ%	*UK%*	*NZ%*	*UK%*
Flexible budgets used	27*	42	25	30
Flexible budgets not used	73*	58	75	70

Notes: * Statistically significant cross-country difference (chi-square $p < 0.05$)
The data reported in Table 10 were collected by asking respondents whether their company uses flexible budgets when comparing actual with budgeted costs.

reported by Cress and Pettijohn in the US rather than the percentage found in Puxty and Lyall's earlier UK study. This cumulative evidence suggests that since Puxty and Lyall's 1989 survey, there has been an uptake of flexible budgeting in the UK.

Standard Costing and Variance Analysis

Several studies in different countries have assessed standard costing adoption rates. While a degree of cross-country variation is in evidence, one finding common to these studies is the fact that the majority of large companies employ standard costing systems. Three independently conducted surveys of US practice provide highly consistent findings. Cress and Pettijohn (1985) and Schwarzbach (1985) report an 85% adoption rate, while Cornick et al. (1988), found that 86% of firms surveyed use standard cost systems. In their Japanese survey, Scarborough et al. (1991) found a 65% adoption rate of standard costing systems.

In the survey questionnaire used in this study, respondents were simply asked whether their company operates a standard cost system. The findings reveal no statistically significant difference across the two countries, with 73% of the NZ and 76% of the UK respondents indicating standard costing system usage. The extent of the continuing popularity of standard costing lies in stark contrast to the earlier noted claims that standard costing will become increasingly inappropriate in the modern manufacturing environment.

Table 11. Methods Used to Set Labour and Material Standards

	Full sample		*Matched sample*	
	NZ mean	*UK mean*	*NZ mean*	*UK mean*
Standards based on design/engineering studies	3.16	3.46	3.11	3.08
Observations based on trial runs	3.29	3.06	3.30	3.26
Work study techniques	2.67*	3.18	2.53*	3.60
Average of historic usage	3.63*	3.17	3.74*	3.08

Notes: ** Statistically significant cross-country difference (Mann Whitney U; $p < 0.05$);
Respondents were asked to indicate on a scale ranging from "1" (never) to "5" (always) the extent to which their company uses each of the methods referred to in Table 11 when setting labour and material standards.

With respect to standard setting techniques, prior empirical research suggests wide application of a variety of approaches. In their 1983 survey of large US companies, Lauderman and Schaeberle (1983) found that "historic usage" ranked behind "engineering studies" as the most widely-used standard setting approach. 79% of respondents in Cress and Pettijohn's (1985) study report that three or more of the following functional areas participated in standard setting: accounting, human resources, industrial engineering, purchasing, top management and line managers with cost responsibility. In this study, no functional investigation has been made, however four techniques to setting labor and material standards have been appraised: "standards based on design/engineering studies," "observations based on trial runs," "work study techniques," and "average of historic usage." Respondents indicated the extent of their company's usage of each method on a scale ranging from "1" (never) to "5" (always). The mean scores relating to these four questions are presented in Table 11.

This table reveals some statistically significant cross-country differences in the approach taken to standard setting. In NZ "average of historic cost" (which is used more by the NZ sample than by the UK sample) achieves the highest ranking, however in the UK, "standards based on design/engineering studies" appears as the most popular. A further difference relates to "work study techniques" which experience statistically significantly more use in the UK than in NZ. Despite these differences, a mean above the mid-point of the range has been scored for all approaches appraised, suggesting that corporate use of a breadth of approaches is a feature common to standard setting in both countries.

In addition to standard setting approaches, the issue of achievability of standards set has also been investigated. It appears to be generally accepted in textbooks and articles on budgeting and standard setting that targets set at "achievable but difficult to attain" levels are consistent with inducing maximum motivation (Drury, 1992; Hopwood, 1974; Otley, 1987). Experimental research has also shown that challenging targets result in higher performance (Rockness, 1977; Chow, 1983). Cress and Pettijohn's 1985 survey of US firms found that 50% of the US firms surveyed set standards at expected, but difficult to attain levels, 42% set standards based on average past performance; and 8% set standards at the maximum theoretical efficiency level.

Similar to the approach taken by Cress and Pettijohn, in this study respondents were asked which of three approaches best describes the type of standards employed by their company's standard costing system. The three approaches and the response distribution are presented in Table 12. No statistically significant cross-country differences have been

Table 12. Difficulty of Standards Set

	Full sample		*Matched sample*	
	NZ%	*UK%*	*NZ%*	*UK%*
Maximum efficiency standards	4	5	3	8
Achievable but difficult to attain	45	44	43	42
Average past performance standards	51	46	54	50
Other	0	5	0	0

Notes: No statistically significant cross-country differences noted in Table 12.
Respondents were asked to indicate which of the approaches referred to in Table 12 best describes the type of standards employed by their company's standard costing system.

noted. The majority of respondents are approximately evenly split between "achievable but difficult to attain" and "past performance standards" and a minority (4% for NZ and 5% for the UK) set very challenging standards at the level of "maximum efficiency." The first two approaches referred to in Table 12 represent, to varying degrees, difficult to attain standards. If we aggregate the percentages relating to these two approaches, it appears that approximately half of the sample surveyed pursue a standard-setting approach that is consistent with prescribed practice, although it is questionable whether "maximum efficiency standards" lie beyond what normative commentators see as practically achievable.

The final perspective in the empirical investigation focuses directly on the implications of modern manufacturing techniques, e.g., advanced manufacturing technology (AMT) and just in time (JIT) management. Sakurai (1989) documents the case of a Japanese automobile parts supplier that abandoned their standard costing and variance analysis system in the mid-1980's. Several factors may have accounted for this change. Firstly, AMT signifies a reduction in labor costs and also a change in the remaining labor costs from being variable to fixed. These developments suggest analysis of labor variances will be of diminishing managerial significance. A second factor reducing the value of variance analysis is the fact that most overhead costs in an AMT environment are not related to short term changes in production volume. Thirdly, the flexibility achieved in AMT environments signifies that there can be frequent changes made to products and processes. Increasing frequency of change results in an increasing cost of maintaining a standard costing system. Despite these comments, it should be noted that a 1991 survey of Japanese companies found that most Japanese firms are maintaining their standard costing system (Scarborough et. al., 1991), and that there was a division in managerial attitudes towards whether greater AMT signifies an increased or decreased need for standard costing and variance analysis.

Table 13 presents the distribution of answers provided by the NZ and UK accountants to the question "To what extent has the implementation of JIT and/or AMT affected the importance of variance analysis as an aid to controlling manufacturing activities and costs?." The six closed-ended responses provided for this question are reproduced as the six data columns in the table. The results of this analysis reveal little suggestion of JIT or AMT precipitating a move away from variance analysis; in fact, conversely, they tend to point in the opposite direction. The majority of respondents cite "no change" and more respondents see variance analysis as being more rather than less important in a JIT/AMT production environment. The validity of this observation is strengthened when we recog-

Table 13. Impact of JIT/AMT on the Importance of Variance Analysis

	Variance analysis no longer used	*Significant reduction in importance*	*Slight reduction in importance*	*No change*	*Slight increase in importance*	*Significant increase in importance*
NZ full sample	0%	0%	11%	53%	7%	29%
UK full sample	1%	7%	8%	66%	11%	7%
NZ matched sample	0%	0%	21%	50%	7%	22%
UK matched sample	0%	13%	0%	73%	7%	7%

Notes: No statistically significant cross-country differences noted in Table 13.
Respondents were asked "To what extent has the implementation of JIT and/or AMT's affected the importance of variance analysis as an aid to controlling manufacturing activities and costs?" and responded by selecting one of the six closed answers appearing as column headings in Table 13.

Table 14. Impact that JIT/AMT Will have on Management Accounting Systems

		Strongly disagree	*Disagree*	*Uncertain*	*Agree*	*Strongly agree*
Much greater emphasis will be	NZ	0%	7%	19%	62%	12%
placed on using non-financial measures.	UK	3%	11%	21%	47%	18%
There will be a shift from standard	NZ	6%	19%	31%	44%	0%
costing to actual costing.	UK	4%	29%	29%	33%	4%
Management accounting will	NZ	12%	56%	20%	12%	0%
decline in importance.	UK	18%	60%	11%	8%	2%

Notes: No statistically significant cross-country differences noted in Table 14.
Respondents indicated their views on how JIT/AMT adoption might affect the three aspects of management accounting systems referred to in Table 14 by selecting one of the five closed responses appearing as the Table's column headings. The number of respondents completing these three questions was not sufficient to permit a meaningful analysis at the matched sample level.

nize that it has been found in both countries examined; Mann Whitney analysis has revealed no statistically significant differences between the NZ and UK samples.

The survey questionnaire also asked whether JIT/AMT implementation will result in any of the following:

- "A shift from standard costing to actual costing"
- "Much greater emphasis placed on using non-financial measures"
- "Management accounting will decline in importance"

The distribution of responses to these questions are presented as Table 14. No statistically significant differences are in evidence across the two countries.

Table 14 provides some, albeit qualified, support for the view that standard costing might suffer diminished relevance in the advanced manufacturing environment. 44% of the NZ sample and 33% of the UK sample believe that the implementation of JIT/AMT will result in a shift from standard costing to actual costing. This observation should be placed in the context of the views of the remainder of the sample, however, as more than half of the respondents are either uncertain or disagree with this view. A disparity of views is also apparent with respect to the potential of using non-financial measures and the relative importance of management accounting. The majority of respondents see greater emphasis attached to non-financial measures in the modern manufacturing environment (74% in NZ; 65% in the UK). This finding may relate to the earlier reference to the recent attention commanded by Kaplan and Norton's "Balanced Scorecard" philosophy (1992). These views do not seem to point to a diminished importance for management accounting, however, as only 12% of NZ respondents and 10% of UK respondents believe that the modern manufacturing environment signifies a decline in the importance of management accounting.

CONCLUSION

The findings of this survey of NZ and UK manufacturers indicate that budgets and standard costing systems continue to be widely-applied. Of the 321 NZ and UK manufacturing companies represented in the sample, approximately 75% use standard costing systems and the vast majority employ budgetary control systems. The relative importance of budgeting and standard costing is also underlined by the finding that responding accountants tended to see variances from budget/standard as of "above average importance" in judging managerial performance.

The continuing popularity of standard costing is noteworthy as it lies in stark contrast to several predictions of a marginalized role for the practice (Kirwan, 1986; McCosh, 1986; Neuman & Jaouen, 1986; Sakurai, 1989). These predictions also receive little support from the review made of accountants' perceptions of the role to be played by standard costing and variance analysis in AMT environments. Largely consistent with earlier findings made in Japan (Scarborough et. al., 1991), a division has been found in the views of both the NZ and UK accountants on this matter. Most respondents see modern manufacturing technologies carrying no implications for the importance of variance analysis, and more respondents see an increased rather than a decreased role for variance analysis. Respondents were similarly split with respect to whether moves towards JIT/AMT production environments would result in the replacement of standard costing by actual costing.

We are left to conclude that the predicted demise of standard costing has been either overstated or is still to be realized. It could be that such predictions are overly-simplified and fail to recognize the rich context of management accounting practice and the continuing role standard costing might play in AMT environments. A future valuable research endeavour might involve attempting to determine what factors lie behind some businesses seeing no change and some seeing a reduced role for standard costing and variance analysis in the modern manufacturing environment. A further issue worthy of study is the question of whether conventional importance attached to variance analysis of labor and materials is giving way to significance attached to variance analysis of overheads. In addition, we know little of attitudes held by budgetees towards the use of variance analysis in AMT environments. It might well be that a significant confounding factor in the relationship between AMT adoption and accounting system design relates to the culture of the accounting department, i.e., the degree of resistance accountants feel towards modifying established accounting practices.

When comparing the budgeting and standard costing systems of NZ and UK manufacturers, one is struck more by degrees of convergence rather than divergence. This view becomes particularly apparent when we recognize the breadth of budgeting and standard costing system factors that have been appraised in the study. Notwithstanding this view, there are some cross-country differences worthy of further comment. A theme common to the differences noted suggests that the widely-commented upon lag between management accounting theory and practice (see Choudhury, 1986; Edwards and Emmanuel, 1990; Scapens, 1985) tends to be greater in NZ than in the UK. The following differences have been observed:

- Budget holders' performance reports in 40% of New Zealand manufacturers fail to distinguish between controllable and non-controllable costs. From a choice of four reporting approaches referred to in the survey instrument, this was the single most popular for the NZ sample and statistically significantly more popular than for the UK sample. It was noted earlier that this approach is held by the normative literature to be theoretically-deficient and can lead to dysfunctionalism. Merchant (1989; 5) sees managers as assuming risk when held accountable for factors they cannot control. He argues that frustration, lower motivation and management turnover can result if managers are not compensated for this risk. While this problem of an inappropriate reporting style appears to be more prevalent in NZ, it should nevertheless also be noted that approximately a third of UK manufacturers surveyed are also culpable in this regard.
- Relative to UK manufacturers, NZ manufacturers are more reliant on historic data when setting standard costs. The significance of this observation is underlined when it is also recognised that, of the four approaches investigated, historic usage ranks as the most popular basis for setting standard costs in NZ (while ranking third in the UK). Basing standard cost setting on historic usage rates is generally criticised in the normative literature and is inconsistent with the currently widely-espoused "benchmarking to best practice" philosophy (Walleck et al., 1991).
- Relative to the UK sample, there is a greater tendency in the NZ sample to simply treat overheads as fixed and direct costs as variable. This somewhat simplistic approach to cost classification appears to be less sophisticated than basing the exercise on managerial experience which is used statistically significantly more in the UK.

It was noted earlier that NZ represents a particularly interesting research site because of the profound nature of its recent economic changes. The above summary of differences appears to signify that these changes have not resulted in the use of budgeting and standard costing practices that could be described as "leading edge." While we can do little more than speculate, we believe that the last decade has seen NZ's management accounting practices catching up with those used in large industrialized economies such as the UK.

NOTES

1. See Bromwich and Bhimani (1989) for a contrary view.
2. The Mann Whitney U statistic was calculated for variables with ordinal measures (i.e., variables referred to in Tables 3, 5, 7, 8, 11, 13, and 14) and *chi-square* tests were conducted for categorical variables (i.e., variables referred to in Tables 4, 6, 9, 10, and 12).

3. A copy of the questionnaire is available from any of the three authors. Data were collected in late 1995 and early 1996.
4. This analysis was performed by conducting *chi-square* tests for categorical variables (i.e., variables referred to in Tables 4, 6, 9, 10, and 12) and calculating the Kruskal Wallis *H* statistic for variables measured on an ordinal scale (i.e., variables referred to in Tables 3, 5, 7, 8, 11, 13, and 14). At the 5% confidence limit, no statistically significant cross-industry differences have been observed.
5. One further finding (not reported in the body of the paper) provides additional support to this view. Respondents were asked to indicate which of 13 variances are computed by their company's standard costing system. The items included widely referred to variances (e.g., material price, material usage, labor rate and efficiency) as well as less widely-referred to variances (e.g., fixed overhead volume, volume efficiency and volume capacity). It is particularly striking that based on the matched samples, none of the 13 variances are used statistically significantly more in one country compared to the other.

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The International Journal of Accounting

Relevance of U.S.-GAAP for Japanese Companies

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Key Words: Book value equity, Earnings, Foreign registrants, Japanese-GAAP, U.S.-GAAP, Value-relevance.

Abstract: *We use differences in U.S.-GAAP and Japanese-GAAP accounting measures to evaluate the value-relevance of U.S.-GAAP reports. We show data provided in U.S.-GAAP financial statements of Japanese firms is value-relevant beyond that contained in domestic-GAAP statements. Our results complement extant research and support the proposition that U.S. reporting methods provide value-relevant data. Understanding the value-relevance of data from Japanese firms is important in its own right because of the major role these firms play in international markets. We also provide evidence on significant transnational firms that voluntarily provide U.S.-GAAP statements.*

This paper reports on an analysis of the value-relevance of Japanese firms' financial statements that are prepared with U.S. generally accepted accounting principles (GAAP). Value relevance is defined as a significant association between earnings or stockholders' equity and security returns. Our findings suggest that U.S.-GAAP financial statements provide value-relevant data beyond Japanese-GAAP statements. These findings, therefore, support the reporting requirements imposed on transnational firms by the U.S. Securities and Exchange Commission (SEC).

Non-U.S. companies listed on a primary U.S. exchange may choose to either provide their U.S. shareholders with financial statements prepared according to their domestic (non-U.S.) GAAP or provide them with U.S.-GAAP statements. The SEC requires non-U.S. firms that elect to provide domestic-GAAP financial statements to also provide a reconciliation of domestic earnings and shareholders' equity to their U.S.-GAAP counterparts. Both reporting alternatives imply a testable SEC hypothesis that U.S.-GAAP measures provide value-relevant data beyond domestic-GAAP measures.

Amir, Harris, and Venuti (1993) [henceforth AHV] provide evidence that reconciliations of domestic earnings and shareholders' equity to U.S.-GAAP are associated with price

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The International Journal of Accounting, Vol. 33, No. 5, pp. 589-604 **ISSN: 0020-7063.**

(returns) which they interpret as an indication of value-relevance. Their result holds for both aggregate reconciliations and for some specific reconciliation components. This evidence is important to the continuing policy debate over the SEC requirement that foreign companies provide either reconciliations or U.S.-GAAP statements with Form 20-F in order to be listed on a U.S. securities exchange. AHV assert it would be difficult to argue for the requirement if it could not be shown that the reconciliation data were value-relevant.

Since foreign companies can also meet SEC requirements by providing U.S.-GAAP financial statements and are thus not considered by AHV, the question arises whether such U.S.-GAAP data have value-relevance beyond data contained in firms' domestic-GAAP financial statements. While specific differences in GAAP are not highlighted as they are when reconciliations are provided, aggregate differences can be determined by an examination of both U.S. and domestic-GAAP earnings and shareholders' equity line items. Thus, U.S. and non-U.S.-GAAP measures can be used in statistical tests to evaluate the value-relevance of U.S.-GAAP financial statement data.

The purpose of this paper, therefore, is to examine the value-relevance of U.S.-GAAP earnings and shareholders' equity data of non-U.S. companies (Japanese firms, in particular) that prepare U.S.-GAAP financial statements. This paper is of interest for several reasons. First, we suggest, in the spirit of AHV, that it would be difficult to argue for requirements to provide costly data in the form of either reconciliations or complete U.S.-GAAP statements if it could not be shown that the data were value-relevant. Second, the SEC allows non-U.S. firms to choose from two alternative reporting protocols which could have value-relevance implications. If one protocol has differential advantages, firms should consider those advantages. Thus, comparing our results with AHV could give additional insight into reconciling domestic-GAAP to U.S.-GAAP earnings and stockholders' equity numbers as compared to preparing statements in U.S.-GAAP. Third, evidence of value relevance could provide an explanation of why some firms prepare U.S.-GAAP financial statements even when they are not required to do so by listing or registration requirements. Fourth, AHV examine only firms that provide domestic statements along with reconciliations and thereby omit significant transnational firms from a country with a different industrial structure and different methods of preparing financial statements.[1] Thus, our results should be viewed in conjunction with AHV's results to draw conclusions about SEC reporting requirements.[2] Fifth, as Zmijewski (1993) points out, research on cross-country comparisons of the role of earnings and other information is important because we can provide information to regulators and investors grappling with the issues related to globalization of the world's capital markets.

The next section provides additional details and describes some institutional background. We then describe sample selection and research design in the sections 3 and 4. Results are presented in section 5 and concluding remarks are in section 6.

INSTITUTIONAL BACKGROUND

There has been a recent surge in the number of transnational firms that are SEC registrants and trade in U.S. markets. Between October 1989 and May 1993, 208 registrants from foreign countries entered the U.S. market for the first time and approximately $80 billion of

Table 1. Sampling Scheme to Determine Japanese Firms That Prepare U.S. GAAP Statements

Firm Name	*12g3-2(b) exempt[2]?*	*U.S. GAAP per JCH[1]*	*Observations used = 253*
NYSE Firms:			
Hitachi, Ltd.	No	Yes	9
Honda Motor Co., Ltd	No	Yes	7
Kubota Corporation	No	Yes	9
Kyocera Corporation	No	Yes	9
Matsushita Electric Ind.	No	Yes	9
Mitsubishi Bank, Ltd.	No	No[1]	0[3]
Pioneer Corporation	No	Yes	8
Sony Corporation	No	Yes	7
TDK Corporation	No	Yes	7
Nippon Telegraph & Telephone	No	No[1]	0[4]
NASDAQ Firms:			
CSK Corporation	Yes	Yes	10
Canon, Inc.	No	Yes	9
Dai'ie, Inc.	Yes	No[2]	0
Fuji Photo Film Co.	Yes	Yes	10
Ito-Yokado Co.	No	Yes	10
Japan Airlines Co.	Yes	No[2]	0
Kirin Brewery	Yes	No[2]	0
Makita Corporation	No	Yes	7
Mitsui & Co. Ltd.	No	Yes	9
NEC Corporation	No	Yes	9
Nissan Motor Co., Ltd.	Yes	No[2]	0
Sanyo Electric Co., Ltd.	Yes	Yes	9
Tokio Marine & Fire Ins.	No	No[1]	0[3]
Toyota Motor Corp.	Yes	No[2]	0
Wacoal Corp.	No	Yes	7
OTC Firms:			
Ricoh	No	Yes	9
Komatsu	No	Yes	9
Marubeni	Yes	Yes	9
Mitsubishi	Yes	Yes	9
Mitsubishi Elect. Ind.	No	Yes	9
Dai Nippon Printing	No	Yes	7
Omron	Yes	Yes	9
Not in ADR Universe:			
Asahi Optical	No	Yes	9
Itochu	No	Yes	9
Murata	No	Yes	7
Nippon Meat Packers	No	Yes	7
Orix Corp.	No	Yes	6
Toshiba	No	Yes	9

Notes: [1] Firm prepares U.S. GAAP statements but Japanese GAAP used in Japan Company Handbook (JCH).
[2] Exempt from registration provisions under Rule 12g3-2(b) and does not provide U.S. GAAP statements.
[3] Excluded from sample because firm is financial institution.
[4] Excluded because Japanese Government has significant ownership.

the securities were registered for sale in the U.S. (USSEC, 1993a). The number of transnational SEC registrants reporting U.S.-GAAP data increased from 528 to 625 between May 1993 and June 1994 (USSEC, 1994a).

Shares of foreign firms usually trade in the U.S. through American Depository Receipts (ADRs). ADRs are negotiable receipts issued by a depository (normally a bank or trust company) in the U.S. to represent ownership of the underlying shares of a foreign firm. A custodian bank in the firm's home country typically holds the underlying shares in trust.[3] ADRs are sold, registered, and transferred in the U.S. in the same manner as any share of stock. Each ADR represents some multiple of shares of the underlying stock such that the trading price of each ADR is in a generally accepted range of $10 to $30.

An ADR facility can be created with or without a company's sponsorship. If the facility is created without sponsorship, trading occurs over-the-counter (OTC) and the ADR (or firm) is not subject to SEC reporting requirements. Sponsorship of an ADR facility occurs at one of three levels that are unofficially coined as sponsored level-I, II, or III.

Sponsored level-I ADRs trade in the OTC "pink-sheet" market and can neither be listed nor make a public offering in the U.S. The sponsoring company often obtains a 12g3-2(b) exemption from 1934 Exchange Act reporting requirements. This ADR level is often used by foreign firms to test their reception in U.S. markets.[4]

Sponsored level-II ADRs trade on NASDAQ or an exchange but are not associated with a public offering. Level-III classification is associated with listing and a public offering. Both level-II and III ADR sponsorship involve meeting SEC reporting requirements to either provide domestic-GAAP statements with reconciliations or provide U.S.-GAAP financial statements.[5] The question we address is whether earnings and shareholders' equity reported on a foreign firm's U.S.-GAAP financial statements have value-relevance after controlling for earnings and equity determined with non-U.S.-GAAP.

SAMPLE SELECTION

Japanese firms make up the fourth largest group of foreign SEC registrants subject to reporting provisions of the Securities Exchange Act of 1934. They are the largest group, however, that unanimously provides U.S.-GAAP financial statements rather than reconciliations to U.S.-GAAP (SEC, 1993a).[6] Since 100% of Japanese SEC registrants and several other Japanese firms prepare U.S.-GAAP statements, we are afforded a useable sample of commonly domiciled firms which reduces concern that returns-earnings coefficients might not be constant across countries.[7] Thus, Japanese firms provide a unique opportunity to examine the value- relevance of one SEC reporting option.

We examine a pooled cross-section of Japanese firms that prepare U.S.-GAAP financial statements either because they wish to list or issue securities or because they deem it otherwise advantageous. A search of the Japan Company Handbook (Toyo Keizai, 1993) [hereafter JCH] identified thirty firms that report U.S.-GAAP data. We also identified two additional Japanese firms listed on the New York Stock Exchange (NYSE) and six additional firms listed on NASDAQ since these firms are most likely to provide U.S.-GAAP financial data.[8] These sources yield the 38 firms listed in Table 1.

JCH reports only Japanese-GAAP data for firms that employ both U.S. and Japanese-GAAP to prepare consolidated statements. We obtained U.S.-GAAP annual reports for the three NYSE and NASDAQ firms listed in Table 1 for which JCH did not report U.S. data. Subsequently, we dropped these three firms from the analysis because they were financial institutions or, in Nippon Telegraph & Telephone's case, significantly owned by the Japanese Government. We dropped these firms because of difficulty collecting consistent U.S.-GAAP data and uncertainty over effects of their regulatory environment.

Five other NASDAQ firms were dropped because they do not provide U.S.-GAAP statements. Non-U.S. firms traded in the U.S. do not necessarily meet SEC registration and reporting requirements. Thirty-two Japanese firms are exempt from registration requirements under Rule 12g3-2(b) (SEC, 1994b).[9] Eight of the exempt firms are NASDAQ traded.[10] Three NASDAQ firms and three OTC firms prepare U.S.-GAAP financial statements despite the exemption. Six sample firms do not trade in the U.S.

The last column of Table 1 shows the number of firm-year observations each firm contributes to the final sample. We collected sample-firm data for the period 1983 to 1992. We excluded one or two observations for seven firms that reported partial-year data when they changed to March 31 fiscal year ends in the late-eighties to coincide with the government's fiscal year-end (Toya Keizai, Inc, 1993). Additional firm-years were lost because of missing data in the Global Vantage data base (Compustat-PC, Plus, 1993). We have a maximum of 253 observations representing thirty firms for which we have domestic stock price (returns) data and both Japanese-GAAP and U.S.-GAAP financial data.

We collected annual returns and U.S.-GAAP financial data from Global Vantage and from JCH. Global Vantage reports U.S.-GAAP consolidated data for those firms that provide U.S.-GAAP data and Japanese-GAAP consolidated data for those firms that do not provide U.S.-GAAP data.

We collected Japanese-GAAP financial data from JCH which reports both parent company data and consolidated data. The parent company data is prepared via Japanese-GAAP and the consolidated data is prepared with either U.S. or Japanese-GAAP. AHV point out that "most Japanese companies listed on a U.S. exchange use U.S.-GAAP because at the time they originally listed in the United States, Japan did not require consolidated financial statements. Since the companies had no domestic equivalent, they chose U.S.-GAAP and were allowed to retain this for Japanese reporting purposes once Japan adopted full consolidation" (p. 233).

One limitation of allowing Japanese firms to use U.S.-GAAP data for domestic purposes is that we are constrained to compare U.S. consolidated data to Japanese unconsolidated data. Thus, we perform a joint test that consists of the value-relevance of U.S.-GAAP over Japanese-GAAP and the value-relevance of U.S. consolidated over Japanese unconsolidated data. Our approach seems reasonable for several reasons. First, Japanese financial reporting has traditionally emphasized unconsolidated financial statements. For example, the Commercial Code (Shoho) of Japan does not require consolidated statements (Renketsu Zaimushohyo) and the Japan Securities and Exchange Law (Shokentorihikiho) requires consolidation only as supplemental information (Campbell, 1991; Coopers & Lybrand, 1991). Second, Darrough and Harris (1989) provides evidence that unexpected unconsolidated earnings of Japanese firms are more closely associated with returns than unexpected consolidated earnings. Third, U.S.-GAAP consolidated data displays high correlation (.70) with Japanese-GAAP unconsolidated data which is similar to the correlation between consolidated and unconsolidated data (.86) of an industry-matched sample of firms that do not prepare U.S. consolidated data. We provide additional specification checks on this issue through other comparisons of sample firms with match firms. Nevertheless, Japanese-GAAP unconsolidated and U.S.-GAAP statements are the available inputs to decision models and the value-relevance of the U.S.-GAAP data is an important issue for the reasons enumerated previously.

Another potential limitation is there could be something economically different about firms that choose to prepare U.S.-GAAP which could preclude generalization of results. We do not address motivations of sample firms for preparing U.S.-GAAP. We do, however, attempt to measure differences by comparing our sample with a matched sample of firms that do not prepare U.S.-GAAP. This comparison provides some evidence that sample firms behave similarly to other firms.

RESEARCH DESIGN

Following AHV,[11] we use two approaches to evaluate the value-relevance of U.S.-GAAP disclosures by Japanese firms. The first approach considers the association between stock market returns and accounting earnings determined under two different accounting practices. The second approach considers whether differences between Japanese and U.S.-GAAP measures explain the market (P) to book-value of shareholders' equity (BV) ratio. AHV assert that most earnings announcements contain domestic-GAAP income only, show that most firms do not file annual reports at the same time as Form 20-F, discuss other challenges of isolating the news and date of information releases to the market (p. 237) and find no significant association between short-window market returns and U.S.-GAAP disclosures. Therefore, because of the difficulties of identifying the timing of information releases in two or more markets, we do not use an event-study methodology to evaluate the value-relevance of U.S.-GAAP disclosures by Japanese firms.

Return–Earnings Association

Securities of most firms in this study trade in at least two countries (Japan and the U.S.) and currencies (yen and dollars) and this fact raises the issue of where to measure returns. We follow AHV and run all tests using domestic market prices to calculate returns. One advantage of this approach is that we can admit six firms to the sample that do not trade in the U.S. and thus do not have U.S. prices (returns). AHV find the correlation between U.S. and non-U.S. returns is in excess of .99 and point out that arbitrage conditions suggest equal domestic and U.S. prices unless thin trading in one market or the other creates a transaction cost barrier.

We examine the association between returns and earnings over a twelve-month window corresponding with the firm's fiscal year.[12] The earnings variables follow from the relationship:

$$EARN_{j,Jpn,¥,t} = EARN_{j,US,¥,t} + DEARN_{j,¥,t} \quad (1)$$

where *EARN* is reported earnings per share (excluding extraordinary items) for firm j, the subscripts *Jpn* and *US* show which country's GAAP is employed, the subscript ¥ shows the currency, and t shows the year. We drop the subscript ¥ since we use reported Yen measures for both U.S.-GAAP and domestic-GAAP data in this study. *DEARN* shows the difference between earnings reported under U.S. and Japanese-GAAP that balances the equation. A review of annual reports indicates that major differences exist between U.S. and Japanese accounting for deferred taxes, currency translation, accrual of expenses, post employment benefits, leases, and stock purchase warrants.

We continue with the model:

$$R_{j,t} = \alpha_0 + \alpha_1\, EARN_{j,Jpn,t}/P_{j,t-1} + \alpha_2\, \Delta EARN_{j,Jpn,t}/P_{j,t-1} + \alpha_3\, V_{jt} + e_{j,t} \qquad (2)$$

where $R_{j,t}$ is $(P_{j,t} - P_{j,t-1} + dividends_{j,t})/P_{j,t-1}$; $\Delta EARN_{j,Jpn,t}$ is the earnings change under Japanese- GAAP from period $t\text{-}1$ to t; P denotes share price at the subscripted time; V_{jt} represents nonrandom additional information that explains returns for firm j at time t; and $e_{j,t}$ is an i.i.d. random error term.

If U.S.-GAAP earnings reflect the additional information associated with returns, then equation (2) can be rewritten as:

$$\begin{aligned} R_{j,t} = \alpha_0 &+ \alpha_1\, EARN_{j,Jpn,t}/P_{j,t-1} + \alpha_2\, \Delta EARN_{j,Jpn,t}/P_{j,t-1} + \\ &\alpha_{31}\, DEARN_{j,t}/P_{j,t-1} + \alpha_{32}\, \Delta DEARN_{j,t}/P_{j,t-1} + e_{j,t} \qquad (3) \end{aligned}$$

where $DEARN_{j,t}$ is as defined in equation (1), and $\Delta DEARN_{j,t}$ is the change in the difference in earnings from the prior period (i.e., $DEARN_t - DEARN_{t-1}$).

Our general hypothesis, implied by SEC reporting requirements, is that accounting measures prepared under U.S.-GAAP are value-relevant after controlling for accounting measures prepared under Japanese-GAAP. Evidence supporting this hypothesis suggests that SEC disclosure requirements provide benefits, net of costs, to transnational firms and investors.[13] We provide evidence to support the SEC hypothesis if we are able to reject either the statement α_{31} or α_{32} = zero or the joint null hypothesis that $\alpha_{31} = \alpha_{32}$ = zero .

Price-to-Book Analysis

Our second approach to evaluate the value-relevance of U.S.-GAAP disclosures considers whether they help explain the price-to-book-value ratio. Goodwill is the difference between the market and book-value of an asset and is related to market perceptions of expected earnings. AHV points out that P and BV may also differ because of accounting differences, suggesting a higher ratio when firms use conservative practices. We examine whether or not aggregate differences between Japanese and U.S.-GAAP measures help explain the P to BV ratio when BV is measured in Japanese-GAAP (See AHV, Bernard, Merton, and Palepu [1992]; Easton, Eddey, and Harris [1993]; Feltham and Ohlson [1993]; Ou and Penman [1992]). We continue with the model:

$$P_{j,t}/BV_{j,Jpn,t} = \beta_0 + \beta_1\, EARN_{j,Jpn,t}/BV_{j,Jpn,t,} + \beta_2\, W_{j,Jpn,t} + e_{j,t} \qquad (4)$$

where $BV_{j,Jpn,t}$ is the book-value per share determined via Japanese-GAAP for firm j at time t, and $W_{j,Jpn,t}$ is nonrandom additional information explaining the price-to-book ratio of firm j at time t. Assuming the difference between U.S.-GAAP and Japanese-GAAP earnings and equity is the additional information contained in $W_{j,Jpn,t}$, equation (4) can be rewritten as:

$$P_{j,t}/BV_{j,Jpn,t,} = \beta_0 + \beta_1\, EARN_{j,Jpn,t}/BV_{j,Jpn,t,} + \beta_{21}\, DBV_{J,t}/BV_{j,Jpn,t,} + \beta_{22}\, DEARN_{j,t}/BV_{j,Jpn,t,} + e_{j,t} \qquad (5)$$

where DBV is U.S. minus Japanese-GAAP measures of book-value for firm *j* at time *t* and other variables are as defined.

β_1 reflects the association between Japanese-GAAP return on equity (ROE) and the P to BV ratio. The variable $DBV_{j,Jpn,t}/BV_{j,Jpn,t}$, equals $((BV_{j,US,t}/BV_{j,Jpn,t}) - 1)$. If the U.S.-GAAP measure of BV is more closely aligned with price than the Japanese-GAAP measure, then β_{21} will be positive. The coefficient β_{22} reveals how incorporating U.S.-GAAP practices in earnings incrementally explains the P/BV ratio based on Japanese-GAAP. If the U.S.-GAAP measure of earnings reflects a measurement of ROE closer to that used by the market, then β_{22} will be positive.

AHV assert the price-to-book model in (5) is a function of practices implicit in domestic GAAP. The right-hand-side variables in (5) reflect both future profitability and adjustment of measurement differences implicit in Japanese measures of shareholders' equity and earnings. We also define the price-to-book ratio in terms of U.S.-GAAP to distinguish the two effects. Rewriting equation (5) as:

$$P_{j,t}/BV_{j,U.S.,t} = \theta_0 + \theta_1\, EARN_{j,Jpn,t}/BV_{j,U.S.,t} + \theta_{21}\, DBV_{j,t}/BV_{j,U.S.,t} + \theta_{22}\, DEARN_{j,t}/BV_{j,U.S.,t} + e_{j,t} \qquad (6)$$

where $BV_{j,U.S.,t}$ can be rewritten as $BV_{j,Jpn,t} + DBV_{j,t}$. This measure alters the P/BV ratio in equation (5) to account for differences between U.S. and Japanese-GAAP measurement practices. If these differences are value-relevant, then the P/BV ratio based on U.S.-GAAP measures should be closer to one and have a lower variance than Japanese measures.[14]

AHV provide arguments (p. 243) that we can expect θ_1 to be positive if Japanese-GAAP earnings reflect firms' profitability. If U.S.-GAAP shareholders' equity reduces the measurement error component, however, θ_1 should be smaller than the coefficient β_1 in (5).

A nonzero coefficient β_{22} could result from differences between Japanese and U.S. protocols to determine earnings or from the measurement error inherent in Japanese-GAAP shareholders' equity. If U.S.-GAAP reduces the measurement error, then the value-relevance of a difference in earnings can still be evaluated. A nonzero coefficient, θ_{22}, will indicate that earnings determined under U.S.-GAAP provides value-relevant information beyond that contained in differences between shareholders' equity.

Finally, if the additional information contained in U.S.-GAAP BV is value-relevant while Japanese-GAAP BV provides no incremental information, then $DBV_{j,t}/BV_{j,U.S.,t}$ should not help explain the price-to-book ratio based on U.S.-GAAP. In this case, θ_{21} is expected to be zero.

Table 2. Summary Statistics for Japanese Firms Preparing U.S. GAAP $N = 245$[1]

	Median	*Mean*	*Std. Dev.*	*Quartile 1*	*Quartile 3*
R_t	0.0035	0.0754	0.3335	–0.1701	0.3052
$EARN_{j,Jpn,t}/P_{j,t-1}$	0.0247	0.0280	0.0148	0.0186	0.0340
$\Delta EARN_{j,Jpn,t}/P_{j,t-1}$	0.0007	0.0011	0.0010	0.0004	0.0014
$DEARN_{j,t}/P_{j,t-1}$	0.0061	0.0079	0.0182	0.0000	0.0139
$\Delta DEARN_{j,t}/P_{j,t-1}$	0.0005	–0.0001	0.0158	–0.0037	0.0053
$EARN_{j,US,t}/P_{j,t-1}$	0.0338	0.0361	0.0251	0.0221	0.0468
$\Delta EARN_{j,US,t}/P_{j,t-1}$	0.0014	–0.0002	0.0192	–0.0053	0.0078
$EARN_{j,Jpn,t}/BV_{j,Jpn,t}$	0.0658	0.0675	0.0297	0.0467	0.0848
$DBV_{J,t}/BV_{j,Jpn,t,}$	0.1216	0.2023	0.3004	0.0184	0.3035
$DEARN_{j,t}/BV_{j,Jpn,t,}$	0.0139	0.0232	0.0424	0.0000	0.0394
$EARN_{j,Jpn,t}/BV_{j,U.S.,t}$	0.0546	0.0599	0.0553	0.0397	0.0725
$DBV_{j,t}/BV_{j,U.S.,t}$	0.1084	0.1281	0.1930	0.0181	0.2328
$DEARN_{j,t}/BV_{j,U.S.,t}$	0.0134	0.0145	0.0371	0.0000	0.0310
P_{Jpnt}/BV_{Jpnt}	2.3769	2.6251	1.1361	1.8353	3.2136
P_{Jpnt}/BV_{ust}	1.9894	2.4058	2.6733	1.598	2.8794
[2]$EARN_{j,US,t}$	42.04	66.22	68.39	20.48	88.4
[2]$EARN_{j,Jpn,t}$	37.7	54.01	51.97	15.8	64.9
[2]BV_{us}	574	841	738	359	1030
[2]BV_{jpn}	517	759	645	312	940

Notes: $R_{j,t}$ is the annual return of firm j for the period ending at fiscal year-end;
$P_{j,t}$ is the domestic price per share of firm j at fiscal year end;
$EARN_{j,t}$ is fiscal year earnings per share of firm j reported in the subscripted GAAP;
$\Delta EARN_{j,t}$ is the change in subscripted GAAP fiscal year earnings;
$DEARN_{j,t}$ is U.S. GAAP earnings – Japanese GAAP earnings per share for firm j;
$\Delta DEARN_{j,t}$ is the change in $DEARN$ from time $t-1$ to t for firm j.
$BV_{j,t,}$ is the book value per share of shareholders' equity of firm j at time t reported in the subscripted GAAP.
[1]Sample excludes observations where R-student values > |3| in regressions.
[2]Statistics for these items are for full sample of 253 firms.

RESULTS

Table 2 contains descriptive statistics for the primary variables used in our analysis and for the earnings and book-value numbers used to calculate those variables. The median (mean) annual stock return is .35 (7.54)%. The high variance of returns reflects the roller-coaster ride taken by Japan's stock market during the period. Average return on Japanese-GAAP equity is 6.75%. Mean U.S.-GAAP (Japanese-GAAP) earnings are 3.6 (2.8)% of price. The difference between earnings is 1.45 (2.32)% of U.S.-GAAP (Japanese-GAAP) book-value. Both U.S.-GAAP consolidated earnings and book-value are greater and have more variability than Japanese unconsolidated figures. The P/BV ratio based on U.S.-GAAP measures is closer to one than P/BV based on Japanese measures, providing some evidence that U.S.-GAAP measures are more closely aligned with price.

Return–Earnings Analysis

The results for the returns model in equation (3) are reported in Table 3. We estimate the model for the full sample (1983-1992), for the years 1983 through 1987, for the years 1988 through 1992, and for each year in the sample period.[15] We delete from regressions any

Table 3. *Regression Results for Annual Returns-Earnings Associations for U.S. and Japanese GAAP Differences for Experimental Sample:[1] 1983-1992*
$R_{j,t} = \alpha_0 + \alpha_1 EARN_{j,Jpn,t}/P_{j,t-1} + \alpha_2 \Delta EARN_{j,Jpn,t}/P_{j,t-1} + \alpha_{31}\, DEARN_{j,t}/P_{j,t-1} + \alpha_{32}\, \Delta DEARN_{j,t}/P_{j,t-1} + \in_{j,t}$

	α_0	α_1	α_2	α_{31}	α_{32}	Adj. R^2	N	$N^{\#}$
1983-92	−0.131***	4.061***	76.465***	1.530	1.730	0.121	253	248
	−2.960	*3.119*	*3.157*	*1.104*	*1.237*			
1983-87	0.033	1.854	4.866	1.765	−0.472	−0.001	121	118
	0.605	*1.384*	*0.570*	*1.323*	*−0.461*			
1988-92	−0.436***	11.469***	253.790***	−1.497	13.142***	0.466	132	130
	−6.218	*4.602*	*6.051*	*−0.886*	*3.698*			
1983-84	0.082	0.914	−8.407	9.493***	1.426	0.017	34	34
	0.536	*0.241*	*−1.672*	*3.068*	*0.544*			
1985	−0.201**	4.003***	23.470	2.101	−0.082	0.176	30	29
	−2.418	*2.802*	*1.455*	*0.850*	*−0.026*			
1986	−0.276***	7.284*	120.750***	−3.128	2.371	0.320	29	28
	−3.147	*2.024*	*3.993*	*−1.645*	*1.344*			
1987	−0.102	7.262*	102.160**	6.135**	0.837	0.248	28	28
	−0.968	*1.925*	*2.378*	*2.432*	*0.459*			
1988	0.086	4.458	98.685	8.982	3.819	0.072	24	24
	0.438	*0.671*	*1.538*	*1.449*	*0.578*			
1989	−0.603***	15.379***	362.750***	1.730	19.977**	0.509	24	23
	−3.746	*2.891*	*4.439*	*0.239*	*2.497*			
1990	−0.240**	12.803**	-137.990	−1.399	16.416***	0.342	26	25
	−2.585	*2.479*	*−1.419*	*−0.331*	*3.936*			
1991	−0.360***	5.755***	135.460***	1.863	4.008	0.205	29	28
	−6.810	*3.918*	*4.099*	*1.349*	*0.622*			
1992	−0.472***	9.268***	71.679	−0.017	1.866	0.387	29	29
	−7.840	*3.854*	*1.389*	*−0.011*	*0.870*			

Notes: [1] Sample firms are Japanese firms that prepare U.S. GAAP financial statements.
N is the number of observations available for each regression.
$N^{\#}$ is the number of observations that enter each regression after removing those with R-student scores>|3|.
t-statistics are *italicised*.

Notes: ***Significant at < .01 level. **Significant at < .05 level. *Significant at <.10 level.

$R_{j,t}$	is the annual return of firm j for the period ending at fiscal year-end;
$P_{j,t}$	is the domestic price of firm j at fiscal year end;
$EARN_{j,Jpn,t}$	is fiscal year earnings per share of firm j reported in Japanese GAAP;
$\Delta EARN_{j,Jpn,t}$	is the change in Japanese GAAP fiscal year earnings;
$DEARN_{j,t}$	is U.S. GAAP earnings - Japanese GAAP earnings per share for firm j;
$\Delta DEARN_{j,t}$	is the change in *DEARN* from time t-1 to t for firm j.

observation that yields an R-student ratio with an absolute value greater than three.[16] The second to last column in Table 3 indicates the number of available observations for each sample period and the last column reports the number of observations entering the regression after excluding those with large R-student ratios. We use White's (1980) covariance-matrix estimator in all regressions to adjust for heteroscedasticity.

Coefficients on earnings levels (α_1) and change in earnings (α_2) determined with Japanese- GAAP are positive and significant for the full sample, for the last five years of the sample, and for most of the individual-year sub-samples. Coefficients on differences between U.S.-GAAP and Japanese-GAAP earnings (α_{31}) or change in difference in earnings (α_{32}) are significant at the .01 level for the second five year sub-sample and for a few

Table 4. Results for Price-to-Book Regressions for Aggregate Differences between U.S. and Japanese GAAP Measures for Experiemental Sample:[1] 1983-1992

$P_{j,t}/BV_{j,Jpn,t,} = \beta_0 + \beta_1 EARN_{j,Jpn,t}/BV_{j,Jpn,t,} + \beta_{21} DBV_{J,t}/BV_{j,Jpn,t,} + \beta_{22}\, DEARN_{j,t}/BV_{j,Jpn,t,} + {}_{j,t}$

	β_0	β_1	β_{21}	β_{22}	Adj. R^2	N	N#
Panel A: Japanese GAAP Measure of Book Value:							
1983-92	1.677***	12.580***	−0.240	7.160***	0.188	253	251
	12.862	*5.508*	*−0.931*	*3.081*			
1983-87	1.594***	11.577***	0.013	5.083**	0.164	121	120
	9.017	*4.149*	*0.042*	*2.140*			
1988-92	1.496***	17.607***	−0.900**	14.487***	0.279	132	131
	7.575	*5.356*	*−2.339*	*3.382*			
1983-84	1.278***	12.194***	0.275	9.353	0.221	34	33
	3.946	*3.012*	*0.363*	*1.417*			
1985	1.497***	5.959	0.182	6.510**	0.251	30	29
	4.811	*1.466*	*0.298*	*2.509*			
1986	1.122***	21.275***	−0.997	0.587	0.212	29	28
	4.025	*3.992*	*−1.650*	*0.195*			
1987	1.446***	23.714**	−1.073**	14.601*	0.351	28	28
	3.035	*2.144*	*−2.138*	*1.930*			
1988	2.593***	7.081	−0.019	15.057	0.075	24	24
	4.437	*0.735*	*−0.036*	*1.633*			
1989	2.544***	4.375	−0.537	26.571***	0.350	24	23
	9.684	*1.013*	*−0.924*	*5.510*			
1990	1.227***	19.815***	−1.173	21.480***	0.534	26	25
	4.774	*3.392*	*−1.580*	*3.362*			
1991	1.344***	15.154**	−0.236	4.700	0.213	29	29
	3.265	2.281	*−0.430*	*0.730*			
1992	0.830***	19.325***	−0.170	0.032	0.641	29	28
	9.389	*9.000*	*−0.657*	*0.018*			
	θ_0	θ_1	θ_{21}	θ_{22}	Adj. R^2	N	N#
$P_{j,t}/BV_{j,U.S.,t} = \theta_0 + \theta_1 EARN_{j,Jpn,t}/BV_{j,U.S.,t} + \theta_{21} DBV_{j,t}/BV_{j,U.S.,t} + \theta_{22}\, DEARN_{j,t}/BV_{j,U.S.,t} + \in_{j,t}$							
Panel B: U.S. GAAP Measure of Book Value:							
1983-92	1.682***	11.574***	−1.102***	4.200*	0.884	253	251
	4.494	*5.424*	*−5.207*	*1.753*			
1983-87	1.595***	11.577***	0.013	5.826**	0.164	121	120
	9.022	*4.149*	*0.041*	*2.453*			
1988-92	1.550***	16.842***	−2.858***	17.524***	0.388	132	129
	9.882	*5.540*	*−8.211*	*4.843*			
1983-84	1.244***	11.622***	−1.220***	14.114**	0.130	34	33
	4.394	*3.348*	*−3.024*	*2.288*			
1985	1.353***	7.439**	−0.819	5.273***	0.190	30	29
	5.298	*2.220*	*−1.624*	*2.749*			
1986	0.895***	26.430***	−1.932*	1.344	0.336	29	29
	2.948	*4.025*	*−1.909*	*0.371*			
1987	1.289***	26.715**	−2.196***	12.531*	0.419	28	28
	2.881	*2.417*	*−4.845*	*1.942*			
1988	2.156***	8.721	−2.150**	25.505***	0.345	24	23
	3.825	*0.888*	*−2.388*	*4.123*			
1989	2.705***	2.125	−2.717***	22.071***	0.572	24	23
	10.953	*0.401*	*−4.038*	*4.966*			
1990	1.262***	21.142***	−3.206***	22.766***	0.531	26	25
	5.057	*3.711*	*−4.636*	*3.742*			

(continued)

Table 4. (Continued)

1991	1.665***	9.959**	−1.119***	−0.262	0.995	29	29
	6.111	*2.247*	*−8.819*	*−0.041*			
1992	0.840***	18.416***	−0.818**	−0.715	0.649	29	28
	10.167	*8.390*	*−2.305*	*−0.332*			

Notes: [1]Sample firms are Japanese firms that prepare U.S. GAAP financial statements.
N is the number of observations available for each regression.
$N^{\#}$ is the number of observations that enter each regression after removing those with R-student scores>|3|.
t-statistics are *italicised.*
***Significant at < .01 level. **Significant at < .05 level. *Significant at <.10 level.
$P_{j,t}$ is the domestic price of firm j at fiscal year end;
$BV_{j,Jpn,t.}$ is book value per share of shareholders' equity of firm j at time t in Japanese GAAP.
$BV_{j,U.S.,t}$ is book value per share of shareholders' equity of firm j at time t in U.S. GAAP.
$EARN_{j,Jpn,t}$ is fiscal year earnings per share of firm j reported in Japanese GAAP;
$EARN_{j,US,t}$ is U.S. GAAP earnings per share for firm j;
$DEARN_{j,t}$ $= EARN_{j,US,t} - EARN_{j,Jpn,t}$.
$DBV_{j,t}$ $= BV_{j,U.S.,t} - BVj,Jpn,t$.

of the individual years. For the full sample, however, coefficients on the differences are not significant.[17]

Price-to-book Analysis

We report results for the regression analysis using aggregate differences between U.S. and Japanese measures in Table 4. Panel A reports results with the price-to-book ratio measured in Japanese-GAAP. The adjusted R^2 is .188 for the full sample and coefficients on both ROE (β_1) and difference in earnings (β_{22}) measures are positive and significant at the .01 level. These results generally hold for many of the sub-samples, including 1983-1987. Thus, it appears that incorporating U.S.-GAAP practices in earnings reflects a measurement of ROE closer to that used by the market.

The coefficient β_{21} is not positive for any sample period and is significant and negative for the 1988-1992 and the 1987 sub-samples. These results taken alone, provide mixed support for U.S.-GAAP measures of BV being more closely aligned with price than Japanese-GAAP measures.

We also define the price-to-book ratio in terms of U.S.-GAAP to distinguish the effects of future profitability and implicit measurement differences of Japanese-GAAP. Results for regressions using U.S.-GAAP shareholders' equity to determine price-to-book ratios are reported in panel B of Table 4. The adjusted R^2 is .884 for the full sample and all coefficients on earnings and book-value measures are significantly different from zero.

The coefficient θ_1 is smaller than β_1 (reported in Panel A) for the full sample, the 1988-1992 sub-sample, and for four of nine annual subsamples. This is consistent with U.S.-GAAP shareholders' equity reducing the measurement error component in Japanese-GAAP book-value.

Significant negative coefficients for the difference in BV variable (θ_{21}) suggest that Japanese-GAAP measures of book value are value-relevant beyond U.S.-GAAP measures.[18] The nonzero coefficient, θ_{22}, for the full sample and for most sub-samples, suggests earnings determined under U.S.-GAAP provides value-relevant information beyond that contained in differences between shareholders' equity. Overall, these results suggest that adjusting book-value to comply with U.S.-GAAP captures value-relevant information beyond that contained in Japanese-GAAP. The stronger results for the price-to-book tests than for the returns analysis could be due to a small impact of accounting differences on earnings compared with their impact on book-value in which differences accumulate over time. It is also possible that measurement differences are value-relevant regarding price levels that have less effect on price changes.

Additional Analysis

We compare AHV's results for a sample that is mostly European with our results on Japanese companies. AHV find mixed support for the value-relevance of earnings reconciliations. We also find mixed support (Table 3) for U.S.-GAAP earnings providing incremental value-relevant data. AHV's results provide support for the value-relevance of differences in book value of stockholders' equity. Our results also support an hypothesis that U.S.-GAAP book-value measures provide value-relevant data (Table 4, Panels A, and B).

AHV find no support for the hypothesis that earnings differences explain the price-to-book ratio. Our results, however, support the hypothesis that earnings differences explain the price-to-book ratio. U.S.-GAAP earnings in our sample are higher than Japanese-GAAP earnings. The reverse is true in AHV's sample. The standard deviation of earnings differences is smaller in our sample (.018) than in AHV's sample (.12). An interpretation of these contrasting results is that the differences between Japanese-GAAP earnings and U.S.-GAAP earnings provide more precise value-relevant disclosures for explaining the price to book ratio than the differences between a cross-section of various domestic-GAAPs and U.S.-GAAP. The AHV sample consists of firms from 20 countries. Value relevance is likely to differ by country. Treating sample companies as if earnings result from the same protocol is likely to result in greater measurement error.

It is possible that firms that choose to list their shares in the U.S. or otherwise choose to report U.S.-GAAP data may be substantially different than other Japanese companies. We examine a separate sample of 244 observations from twenty-nine Japanese firms matched to our sample on SIC code to shed some light on whether firms in our sample are representative of other Japanese companies.

Experimental firms are significantly larger than firms in the control sample. For the experimental (control) sample, mean unconsolidated sales is ¥3.45 trillion (¥1.13 trillion) and mean unconsolidated total assets is ¥1.97 trillion (¥1.10 trillion).[19] The correlation of consolidated with unconsolidated sales for both groups is greater than .989. The correlation of consolidated with unconsolidated income is also high for both groups, .70 for the experimental group and .86 for the control group. These high correlation coefficients support, to an extent, our joint test for differences across GAAPs and entities. Experimental and control firms also have similar international sales characteristics. A comparison of mean export ratios of the experimental (33%) and control (29%) samples yields an insignificant t-test p-value of .49.

We estimate models relating price (returns) to earnings for both groups. A comparison of coefficients (not reported) provides some evidence that the two groups behavior is similar for the period 1988–1992 but dissimilar for the 1983–1987 period.

CONCLUDING COMMENTS

We use aggregate differences in U.S.-GAAP and Japanese-GAAP accounting measures to evaluate the value-relevance of U.S.-GAAP reports. Our results are of interest for several reasons. We show data provided in U.S.-GAAP financial statements of Japanese firms is value-relevant beyond that contained in domestic-GAAP statements. Our results complement AHV and support the proposition that both SEC reporting methods (reconciliations or full U.S.-GAAP reports) provide value-relevant data such that a firm's choice might be predicated on local custom or other factors. We also provide evidence on a significant portion of transnational firms that elect to provide U.S.-GAAP statements rather than reconciliations. Moreover, understanding the value-relevance of data from Japanese firms is important in its own right because of the major role these firms play in international markets.

The stronger results for book-value measures raise the possibility that value-relevance studies that rely on earnings measures only may reach different conclusions. In summary, our findings provide additional evidence to support the implied SEC hypothesis that U.S.-GAAP data has value-relevance beyond domestic-GAAP data. It is possible, however, that similar value-relevant data could be reconstructed from other data available in a firm's home country.

Acknowledgments: We thank participants at the congress of The European Accounting Association and the annual meeting of the American Accounting Association for their helpful comments.

NOTES

1. Five of the worlds ten largest public companies are Japanese. Two of these provide U.S.-GAAP statements (WSJ, 1994). In addition, eighty-four of the 528 SEC registrants provided U.S.-GAAP statements in 1993 (SEC, 1993a).
2. Neither AHV's nor our methodology precludes the possibility that U.S.-GAAP earnings and equity are redundant to other information available in the market.
3. This arrangement between domestic and U.S. banks and trust companies is commonly termed an ADR facility.
4. As of August 1994, 996 firms hold the 12g3-2(b) exemption (SEC, 1994b).
5. As of July 1994, 625 foreign firms are subject to SEC registration and reporting requirements (SEC, 1994a).
6. The five countries with the most SEC reporting registrants (U.S.-GAAP statement preparers) are: Canada, 291 (22); United Kingdom, 53 (2); Israel, 36 (3); Japan, 19 (19); and Australia, 19 (1) (SEC, 1993a). Because Canadian and U.S. practices are similar, we would expect the value-relevance of the differences between the two countries to be minimal.
7. AHV examine 467 observations representing 101 firms in 20 countries.
8. The ADR Universe (Bankers Trust, 1993) lists 155 ADRs for Japanese firms traded in U.S. markets. Ten ADRs trade on the NYSE, fifteen trade on NASDAQ, and the remainder trade OTC or in the "pink sheets."
9. The exemption from registration is provided a foreign issuer that submits information about which investors ought to be informed and which the issuer makes public in its country of domicile, files with stock exchanges, or distributes to shareholders.

10. On October 6, 1983, the SEC revised Rule 12g3-2(b) by terminating availability of the exemption rule for certain foreign issuers with securities traded on an automated inter-dealer quotation system (which includes NASDAQ). Securities of non-Canadian issuers then in compliance were grandfathered indefinitely.
11. AHV base their approach on Easton and Harris (1991), Ohlson (1989), and Ball and Brown (1968).
12. We estimate returns-earnings associations for 12-month windows ending from one to six months after the fiscal year-end for the sub-sample of firms that are SEC registrants. The results (not reported) are qualitatively equivalent to those reported.
13. This could also explain why some firms provide U.S.-GAAP data without being required by the SEC to do so.
14. See Bernard, Merton, and Palepu (1992) and Easton, Eddey, and Harris (1993) for a discussion of this argument.
15. We combined the five observations from 1983 with twenty-nine 1984 observations.
16. See Belsley, Kuh, and Welsch (1980) for a discussion about measurement and investigation of influential observations.
17. We also estimate a model (not reported) which includes both Japanese and U.S. earnings levels and changes to consider relative versus incremental value-relevance of the two measures. For the full sample, neither Japanese nor U.S. levels are significant. Earnings changes are significant for both GAAPs. The results are otherwise similar to Table 3 for subperiods.
18. The variable $DBV/BV_{U.S.}$ equals $1\text{-}(BV_{JPN}/BV_{U.S.})$
19. Unconsolidated data are the only common items available for firms in both groups.

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The International Journal of Accounting

The Impact of Corporate Attributes on the Extent of Mandatory Disclosure and Reporting by Listed Companies in Zimbabwe

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Key Words: Zimbabwe, Mandatory disclosure, Financial reporting, Annual report, Corporate attributes, Disclosure index

Abstract: *This article reports the results of an empirical investigation of the degree of influence of eight corporate attributes on the extent of mandatory disclosure and reporting of 49 listed companies in Zimbabwe. Using a disclosure index which consisted of 214 mandated information items, the extent of mandatory disclosure by each sample company was quantified, and was used with other data specific to each sample company to test the relational hypotheses. Although several alternative specifications of multivariate regression models were developed and estimated, only the results of a robust regression analysis which indicated that company size, ownership structure, company age, multinational corporation affiliation, and profitability have statistically significant positive effect on mandatory disclosure and reporting practices of the sample companies were reported. The quality of external audit, industry-type and liquidity were statistically insignificant.*

This article reports the results of an empirical investigation of the impact of some corporate-specific attributes on the extent of mandatory disclosure and reporting by Zimbabwe Stock Exchange (ZSE) listed companies.[1] The corporate attributes whose effects on mandatory disclosure were investigated are company size, quality of external audit, ownership structure of issued equity shares, type of industry, company age, multinational corporation (MNC) affiliation, profitability, and liquidity. The importance of theorizing and testing empirically for the effects of these corporate attributes on mandatory disclosure practices of the listed companies in Zimbabwe is to suggest areas where efforts to improve the disclosure regulatory regime in that country should be concentrated. The results of a *robust* regression analysis suggest that company size, ownership structure, company age, MNC

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The International Journal of Accounting, Vol. 33, No. 5, pp. 605-631 ISSN: 0020-7063.

affiliation, and profitability have positive statistically significant influence on the extent of mandatory disclosure and reporting by the sample companies.

Cerf (1961) pioneered the study of the corporate-specific attributes which determines the extent of disclosure. Measuring disclosure by an index of 31 information items considered to be important or desirable by financial analysts in their investment decision making, Cerf (1961) concluded that financial reporting practices of many US companies need improvement. Cerf (1961) also observed that significant differences in disclosure appeared to be a function of a variety of corporate-specific attributes including asset size, number of shareholders, and profitability. Following Cerf's (1961) path-paving study, several researchers have replicated his methodology with or without modification (e.g., Singhvi & Desai, 1971; Buzby, 1974; Firth, 1979; Wallace, 1988; Cooke, 1989a; Tai et al., 1990; Wallace et al., 1994; Patton & Zelenka, 1997). The present study extends this field of study to companies listed on the ZSE.

The remainder of the article is structured in the following manner. The first section examines the statutory and the institutional factors affecting financial accounting and reporting of the private sector companies in Zimbabwe. It also describes some characteristics and the role of the institutions involved in the regulatory process. The second describes how the extent of disclosure in annual report of each sample company was captured. The third section develops the relational hypotheses tested in this study. The fourth section is a description of the sampling method and the statistical tests employed on the data. This section also describes how the corporate attributes were operationally defined and measured. The fifth section reports and discusses the results of the statistical analyses undertaken. This section also evaluates the regression estimation procedures employed in this study. The final section presents the conclusions, possible policy implications of the results, limitations of the research design, and suggestions for future research.

REGULATION OF FINANCIAL ACCOUNTING AND REPORTING IN ZIMBABWE

Corporate financial accounting and reporting by public companies in Zimbabwe is influenced by the Companies Act, 1952 (Chapter 190), and the pronouncement of the professional accountancy body which are, essentially, International Accounting Standards (IASs) that are adopted by the Institute of Chartered Accountants of Zimbabwe (ICAZ). Public listed companies are also required by the ZSE to comply with its listing rules on financial disclosure and reporting. Generally, the financial accounting and reporting requirements of these regulatory sources are similar to those in the UK. The similarity with the UK as explained below, arises from the close historical and economic links between the two countries, the close cultural links of the accounting profession in Zimbabwe to the profession in the UK, and the similarities between UK financial accounting standards and the IASs adopted by the ICAZ.

The Legal Framework

Like many Commonwealth countries, Zimbabwe modelled its companies law on that of the UK's 1948 Companies Act. The Zimbabwean Companies Act, primarily concerned with the protection of existing and potential investors and creditors of companies with limited liability status, sets out the general framework for financial accounting and reporting by those companies. The Act, however, stipulates only the basic minimum requirements of financial accounting and reporting. Since these financial accounting and reporting rules are limited both in coverage and in detail, they are supplemented by the prouncencements of the ICAZ, many of which are wholesale adoptions of IASs. The Act requires companies registered under it to keep accounting records which sufficiently and accurately explain their financial position and performance. Specifically, every company is required to keep proper books of accounts regarding its assets and liabilities, sales and purchases, all sums received and expended and the matters in respect of which the receipts and expenditures took place. The financial statements which must be prepared on regular basis in accordance with the disclosure requirements prescribed in the Seventh Schedule to the Act must also give *a true and fair view* of the operations and the state of affairs of the reporting company.

Every company registered in Zimbabwe is legally required to appoint an independent external auditor. The auditor is required to make a report to members of a company on the accounts examined. The auditor's report should be attached to a company's accounts signed by, at least, two directors and sent to all persons entitled to attend a company's AGM 14 days before the date of such meeting. The Act obliges directors of every company registered in Zimbabwe to publish audited annual accounts within 6 months (i.e., 24 weeks) following its financial year-end. Private companies, under certain conditions are, however, exempted from the requirement to have their accounts audited.

The Accountancy Profession in Zimbabwe

The accountancy profession in Zimbabwe is regulated by the Accountants Act (Chapter 215) through the ICAZ. Under the Act, the ICAZ is a statutory body run by a Council of 15 members, two of whom are appointed by the Minister of Justice, Legal and Parliamentary Affairs. Members of the Council are elected on the basis of geographical representation. The Council is primarily responsible for the establishment, adoption and publication of financial accounting standards, and the supervision of their application throughout the country. As of March 1995, the ICAZ has 1,300 members and 500 students. About half of the members are resident outside Zimbabwe, and about one-third of those resident in Zimbabwe are working in public practice. There are several other accountants in the country who have qualified with some of the UK's professional accountancy bodies. However, only members of the ICAZ may legally describe themselves as public accountants or auditors in Zimbabwe. Legislation is currently underway to recognize other accounting professional qualifications for audit purposes in the country. The work of public accounting firms in Zimbabwe consists primarily of auditing, accounting, tax, and management advisory services. All the international Big Five audit firms are represented in the country. The ICAZ is a member of some international accounting bodies including the International Federation of Accountants and the International Accounting Standards Committee (IASC). It also has representation on several other local bodies including the Consultative Committee of Accountancy and Secretarial Bodies of Zimbabwe, Public Accountants and Auditors Board of Zimbabwe, and the Securities and Exchange Consultative Committee.

The Zimbabwe Stock Exchange

The ZSE was first established in Bulawayo in 1896, but ceased operations in 1924 due to a slowdown in the country's mining industry on which the stock market was so heavily dependent. A second stock exchange was established in Salisbury (now Harare) in 1951, though dealings in securities started five years earlier. The present stock exchange was established by the Rhodesia Stock Exchange Act (No. 27) of 1973. The stock exchange places a continuing periodic reporting obligation on public companies listed on the Exchange. Listed companies are obliged to report any relevant, material information necessary to enable present and potential investors to appraise their financial position and performance. The listing rules of the ZSE require that annual published accounts disclose certain information in addition to those required by the Companies Act and the pronouncements of the ICAZ. The stock exchange also has a general requirement of timely reporting. Listed companies are required to send to their shareholders audited accounts at least 21 days before their AGM (i.e., within 21 weeks after financial year-end). In addition, three copies of the said accounts should be submitted to the stock exchange 22 days before the AGM.

The ICAZ monitors corporate financial accounting and reporting compliance in Zimbabwe. Like the US Securities and Exchange Commission (SEC), the ICAZ employs a *review* method in monitoring and enforcing compliance with statutory and regulatory disclosure requirements. However, while the US SEC uses a more rigid, prosecution-oriented approach to enforcement of disclosure regulations, the ICAZ uses a more flexible and co-operative approach (see Owusu-Ansah [1998] for the literature on regulatory enforcement models). The primary purposes of ICAZ's monitoring of corporate annual reports include: (1) to ascertain the extent to which they comply with Zimbabwe's financial accounting standards; and (2) to encourage compliance with those standards as far as practicable. Unlike the UK's Financial Reporting Review Panel, the ICAZ does not compel instant corrective action such as the publication of a revised set of accounts. It must be pointed out, however, that the primary concern of the ICAZ is to ensure compliance with Zimbabwe financial accounting standards. Nevertheless, it has a secondary obligation to see to full compliance with all relevant disclosure provisions of the Companies Act, and the disclosure requirements of the ZSE.

MANDATORY DISCLOSURE AND ITS MEASUREMENT

Disclosure is the communication of economic information, whether financial or non-financial, quantitative or otherwise concerning a company's financial position and performance. It is described as mandatory if companies are obliged under a disclosure regulatory regime to disclose insofar as they are applicable to them.

Disclosure implies the presentation of a minimum amount of information in corporate reports, sufficient to permit a reasonable evaluation of the relative merits and risks of listed securities (Griffin & Williams, 1960; Belkaoui, 1985). In this study, the disclosure of applicable mandated information items is the minimum standard of disclosure that regulatory bodies in Zimbabwe expect of the sample companies. Conceptually, disclosure of information in corporate financial reports is considered "adequate" if it is relevant to the needs of users, capable of fulfilling those needs, and timely released (Buzby, 1974; Wallace, 1987). In other words, adequate disclosure in a corporate financial report is a function of the quantity and quality of information disclosed therein, the form in which they are presented, and how frequent and timely they are publicly reported. This study, however, focuses only on an aspect of adequate disclosure—the extent to which mandated applicable information items is presented in annual reports of the sampled companies. Adequate disclosure is, thus, operationalised as the number of mandated applicable information items that a listed company discloses, and the degree of intensity by which it discloses those items in its annual report.

To facilitate the quantification of the adequacy of mandatory disclosure practices of the sample companies, a disclosure measuring instrument (index) was developed and used. The measuring instrument consists of 32 disclosure items from the three regulatory sources in Zimbabwe (i.e., the adopted IASs, the Companies Act, and the listing rules of the ZSE). However, to capture the intensity of the disclosure of these items, they were disaggregated into 214 sub-items. Content validity of the instrument was tested with the help of two senior partners of two Big Five international audit firms operating in Zimbabwe. The validated instrument was applied to the annual report of each sample company, and the applicable mandated items disclosed therein numerically scored on a dichotomous basis. That is, a mandated item is scored one, if disclosed, or zero if not disclosed. These scores were then aggregated to constitute the actual mandatory disclosure score for each sample company. To ensure reliability of the scoring instrument, a UK certified accountant was asked to score 12 of the sample companies (representing about 25 per cent of the total sample size). The results from the independent scores were compared with my own scores. The results suggest that I was in substantial agreement with the independent scorer; indicating minimal subjectivity in scoring the mandatory disclosures in the annual reports of the sample companies (Pearson product-moment correlation coefficient = 0.728, p-value = 0.004).

To avoid a situation where a sample company will be penalized for non-disclosure of certain mandated items in the index which, in fact, are inapplicable to it, a *relative* index was used (Babbie, 1994, p. 172). The relative index is the ratio of what the reporting company actually disclose to what the company is expected to disclose under a regulatory regime. The relative index approach has been used in prior studies (e.g., Wallace, 1988; Cooke, 1989a, Wallace et al., 1994; Inchausti, 1997).

The information items in the index were not weighted (i.e., equal weighting system was used) for two reasons. First, unweighted index obviates the necessity of making judgements as to the relative importance of each information item. Research shows that individuals (even experts) have poor insight into their own judgement process (see, e.g. Slovic, 1969; Ashton, 1974). Finally, it permits an independent analysis devoid of the perceptions of a particular annual report user group. This study does not focus on the interest of any particular annual report user group. In addition to the above reasons, the differential weighting system is beset by several problems which are well documented in the literature (see, e.g., Firer & Meth, 1986; Dhaliwal, 1980; Owusu-Ansah, 1998). Quite apart from that, in one earlier study it was demonstrated that the equal weighting system is superior to the differential weighting system (Einhorn & Hogarth, 1975).

To determine whether or not the absence of a mandated information item from an annual report is a case of non-disclosure, I took several measures to minimize the subjectivity problem involved. First, because public companies are required by law to disclose comparative figures for each information item, current figures of each item were compared with that of the previous year. For instance, a dash in front of an item under the column showing current year's figures (i.e., 1994 in this study) suggests inapplicability of that item to a sample company in that reporting period. As in Buzby (1974), an item applicable to a specific sample company is defined as whether or not the item is disclosed in the annual reports of that company. Second, following a suggestion by Cooke (1989a), I read the entire annual report of each sample company twice. The first reading was just before each sampled annual report was scored to familiarize me with the circumstances of each company and to enable me to form opinion as to whether an undisclosed item was, in fact, inapplicable to that company. The second reading which was after an annual report has been scored ensured that the scoring has been consistent and any mistake rectified before the scores were totalled.

CORPORATE ATTRIBUTES AFFECTING MANDATORY DISCLOSURE PRACTICES

The corporate financial reporting literature suggests that several corporate attributes influence the extent to which listed companies comply with mandatory disclosure requirements of the stock exchange on which they are listed (see, e.g., Ahmed and Nichols, 1994; Wallace & Naser, 1995). However, attributes are selected for study if they meet all of the following five conditions. First, the attribute should be likely to associate with mandatory disclosure either on *a priori* assumption or on theoretical consideration. Second, it should be easily measured for the purpose of statistical analysis. Third, the attribute should be able to facilitate the classification of the sample companies into sub-samples without ambiguity, if it is categorical in nature. Fourth, data should be available on that corporate attribute. Finally, the attribute should be relevant to the socio-economic environment of Zimbabwe. The selected corporate attributes are: company size, quality of external audit, ownership structure of issued equity shares, type of industry, company age, MNC affiliation, profitability, and liquidity. The expected partial effect of each of the eight corporate attributes on mandatory disclosure is theorized below.

Company Size

Economic theory, intuition and empirical evidence suggest that size of a company is likely to positively influence its mandatory disclosure practices. Due to possible economies of scale in the production and storage of information, large companies tend to allocate relatively greater amount of resources to the production of information (Stigler, 1961; Alchian, 1969). Generally, large companies tend to be multi-product business entities; operating over wider geographical areas with several divisional units. Consequently, central managements of such companies will require internal information system which will enable them to make operational and strategic decisions concerning the divisions, and to ensure that the divisions are performing adequately in pursuit of overall corporate objectives. Since there is an information system already existing for mass production and circulation of data for internal purposes in large companies, the incremental cost of supplying non-proprietary data to the public is likely to be minimal (Dye, 1985, 1986, 1990). The general expectation that the costs of production tend to decrease as company size increases underlie much consideration regarding the extent to which small companies are expected to comply with disclosure rules.

Second, as Buzby (1975) argues disclosure in great detail puts small companies in competitive disadvantage with their large counterparts in the industry.[2] This suggests that the opportunity cost of mandatory disclosure may be higher for small companies than for large companies. They may, therefore, disclose less information than large companies.

The third factor which relates to the above is the direct cost of complying with disclosure requirements. Since gathering, generating, and disseminating of data are costly activities, small companies may not be able to afford such costs from their resource base. Salamon & Dhaliwal (1980) present evidence suggesting that the direct cost of complying with the US SEC's 10-K filing requirements is relatively higher for small companies than for large companies. Hence, smaller companies may disclose less than their larger counterparts. Fourth, it has been established that increased disclosure by a company reduces its cost of capital[3] (Choi, 1973; Elliott & Jacobson, 1994), and since large companies rely more heavily on the securities market for external financing of their operations than smaller companies (Shapiro & Wolf, 1972; cited in Salamon & Dhaliwal, 1980, p. 559), it follows that large companies are more likely to have extensive disclosure than small companies. Indeed, using experience survey and focused interview approaches, Gibbins et al. (1990) found that the frequency with which companies issue securities influences their disclosure policies. Finally, empirical evidence confirms the hypothesized positive relationship between company size and disclosure (Cerf, 1961; Singhvi & Desai, 1971; Firth, 1979; Wallace, 1988; Cooke, 1989a, 1989b; Wallace et al., 1994; Inchausti, 1997).

Company size is measured by both total assets and market values of equity shares of sample company. The two size variables were logarithmically (base 10) transformed as their distributions were positively skewed.

Quality of External Audit

It is suggested that external auditors play a major role in the disclosure policies and practices of their clients. Specifically, the analyses by Benston (1980) and DeAngelo (1981a) indicate that audit quality is influenced by the size of the external auditing firm. DeAngelo (1981a), for instance, argues that the value of an external audit depends on how users perceive auditors' report in corporate annual report. The perception is formed on the basis of users' understanding of both the auditor's ability to discover a material error (auditors' technical capabilities), and the auditor's willingness to properly report the error (auditors' independence). She contends further that holding technical capabilities for all independent audit firms constant, large independent audit firms are more likely to lose when not reporting a mis-statement or an error. DeAngelo (1981b) and Fama & Jensen (1983b) suggest two reasons why large independent audit firms have a competitive advantage over small independent audit firms in reporting mis-statement and non-compliance with mandatory reporting rules. First, since large independent audit firms have many clients, their economic dependency on a particular client is minimal. Thus, large independent audit firms have greater incentives to maintain independence from their clients. Hence, they are more likely to report any mis-statement and errors, and to ensure compliance by their clients with statutory and regulatory reporting rules than small independent audit firms. The results of the statistical tests of a recent study by Raghunathan et al. (1994) confirm this hypothesized relationship.

In addition, large independent audit firms have more to lose than small audit firms in terms of damages to their reputation. Consider the following example: if an independent auditor succumbs to the pressures of a particular client and it is discovered later, the value of that auditor's services to other existing clients would be reduced. This may lead to demands by the existing (and prospective) clients for lower fees or change of auditors. This is because users of corporate annual reports would heavily discount annual reports certified by that auditor to reflect the reduced value of its services. It follows that the more clients an auditor has, the greater the losses from damages to its reputation. Consequently, large independent audit firms have greater incentives to resist client pressures for lax application of auditing and accounting standards. Another plausible factor may be that large audit firms have greater potential exposure to legal liability. This is because external auditors are liable for losses arising out of fraudulent or misleading certified annual reports. In addition, large audit firms tend to have more collective wealth among their partners. Since investors are more likely to rely on annual reports certified by large audit firms, and to sue for negligence or misconduct on the part of the audit firm, large audit firms have greater incentives to conduct their audit with due diligence.

Furthermore, the findings from Wright's (1983) study also corroborate this hypothesis. Wright presents evidence on auditors' differential preference to disclosure. He studied the disclosure attitudes of various-sized independent audit firms and found significant differences in preferences. While large independent audit firms favor adjustment, small firms favor footnote disclosure. This implies that large audit firms are more inclined to adhere to statutory and regulatory rules than small audit firms as an adjustment is more likely to affect prior, current or the next financial year's transaction, while footnote disclosure affects only the current year. Finally, positive relationship between disclosure and the quality of external audit has been reported by several studies (Cerf, 1961; Singhvi & Desai, 1971; Patton & Zelenka, 1997).

Because audit quality is not directly observable and difficult to measure empirically, like several other researchers, I used size of audit firm as a proxy (Cerf, 1961; Singhvi, 1968; Singhvi & Desai, 1971; Tai et al., 1990; Wallace et al., 1994; Patton & Zelovka, 1997). However, I derived a Big Two (large) and non-Big Two (small) audit firm classification using concentration ratios derived from the market for audit services in Zimbabwe as the original derivation of Big Six audit firms in the UK and the US is not relevant in the case of Zimbabwe. A concentration ratio is defined as the extent to which a market is dominated by a few large suppliers. Although the dichotomization of audit firms used in this study differs from the prevailing practice in the literature, it is not without precedent. Singhvi (1968) and Lee (1994) derived and used concentration ratios arising from a study of the audit services market in India and Hong Kong respectively. A sample company audited by a Big Two audit firm is represented by a dummy of one and zero if otherwise.

Ownership Structure

It is assumed that a wider dispersion of share ownership of a company is associated with it's compliance with mandatory disclosure rules. This proposition is explained in terms of positive (agency) theory of accounting because modern companies are characterized by a separation of ownership and control. This arrangement for corporate control generates agency costs resulting from conflicting interests between management and owners and across classes of owners (Jensen & Meckling, 1976; Fama & Jensen, 1983a). Agency costs tend to be higher for companies with a widespread public ownership of securities, therefore, shareholders of such companies press for more adequate information for monitoring purposes (Watts, 1977).

The complementary view asserts that professional managers of such companies have greater incentives to engage in bonding activities to reassure shareholders that they will be acting in their (shareholders') interest. The provision of adequate information to shareholders through the annual report is one element of bonding activities (Jensen & Meckling, 1976; Watts, 1977). Since management probably already produces much of the desired information for internal decision making purposes, the marginal cost of making this information available to outside users is likely to be lower than for other alternatives. Hence, the tendency for a company with greater number of public individuals on its share register (high agency costs) to adequately disclose information in its annual report is likely to be high.

In contrast, however, in countries where the state (e.g., China), banks (e.g., Germany and Japan) or certain families (e.g., Hong Kong) have substantial equity holdings or where equity ownership is highly concentrated, there is generally little or no physical separation between those who own, and those who manage the capital (Wallace, 1987, 1993; Wallace & Nasar, 1995; Cooke, 1992, 1993; Kaplan, 1990). In such cases, capital owners have greater access to internal information of the company, and may not have to rely, to a greater extent, on public disclosure to monitor their investments. Thus, demand for adequate disclosure and reporting is generally low in such situations.

There does exist, however, a contrary view to the explanations offered by agency theorists outlined above. Zeckhauser & Pound (1990) argue that dispersed individual shareholders are not a formidable influence on corporate outcomes including disclosure policies and practices, even if the net benefits are great enough to provide significant incentives to become informed. Their argument implies that where share ownership is more widely-dispersed, individual public shareholders do not have the same bargaining power *vis-à-vis* the company to access internal information of the company. It follows that the claim and the presumed empirical observation that companies with dispersed ownership have superior disclosure is suspect.

The share ownership structure is defined as the proportion of the voting shares of a sample company owned directly and/or indirectly by corporate insiders. Proportion of outstanding equity share capital held by relatives of management and/or board members is described by the Zimbabwean Companies Act as indirectly (non-beneficial) held by them, and is required to be disclosed in the audit annual report of the company concerned.

Industry-type

Following Sprouse's (1967) suggestion that accounting policies and techniques may vary by industry, I speculate that mandatory disclosure practices of companies are not likely to be the same across different industries. There are several reasons for this speculation. First, certain industries are highly regulated due to their overall contribution toward a country's export earnings or national income. They may, therefore, be subject to more rigorous controls. It is possible that the regulation may affect the disclosure and reporting practices of the companies in this industry. Second, companies in certain industries may have difficulties in reporting adequately due to the nature of work involved. For instance, companies in the oil industry are known to have serious problems in accounting for and reporting depreciation, depletion and exploration of oil wells. Finally, disclosure differential may also be associated with the type of product line or the diversity of products of the companies in an economy. These specific industrial characteristics (or patterns) may manifest themselves in different ways. A consumer-product company may be particularly concerned with its public image and, as such, may tend to comply with all mandatory rules. Similarly, a company that deals in multi-products may have more information to share than one with a small line of products.

The association between industry-type and mandatory disclosure is partially supported by empirical evidence. Stanga (1976) and Fekrat et al. (1996) found industry-type to be a significant factor accounting for the differences in the disclosure levels of the companies in their sample.

A sample company's industry is defined as the main economic activity in which it derives its revenue. The annual reports of the sampled companies were examined for the detailed information about their principal economic activities. Four broad industries were identified, namely, conglomerate, mining, manufacturing and others. The "others" category consists of companies engaged in agricultural, transport, communication, retailing and hoteling businesses. A sample company, for instance, is classified as conglomerate if it derives its revenue from more than one economic activity irrespective of the proportional contribution of one principal economic activity to its annual total revenue. The industry variable is coded as follows: Indus1 = one for "others" and zero otherwise; Indus2 = one for mining and zero otherwise; Indus3 = one for manufacturing and zero otherwise; and Indus4 = one for conglomerates and zero otherwise.

Company Age

The extent of a company's mandatory disclosure may be influenced by its age (stage of development and growth). Older, well-established companies are likely to disclose much more information in their annual reports than younger companies. There are three factors that may contribute to this phenomenon. First, younger companies may suffer competitive disadvantage if they disclose certain items such as information on research expenditure, capital expenditure, and product development. The competitive disadvantage would arise when the information disclosed by the newly-established companies are used to their detriment by the other competitors. On the other hand, older companies may naturally be motivated to disclose such information as their presentation may not hurt their competitive position. Second, the cost and the ease of gathering, processing, and disseminating the required information may be a contributory factor. These costs are likely to be more onerous for younger companies than for their older counterparts. Finally, younger companies may lack a "track record" to rely on for public disclosure. This is explained by the fact that some companies are formed through acquisition or merger of existing companies, while others are formed from scratch. Companies formed from scratch would not have any past operating histories of their own. Such new companies may have less incentive to disclose more information. The company age variable is measured on six monthly basis since flotation date to the financial year ending in 1994.

MNC Affiliation

It is assumed that the extent of a company's mandatory disclosure is influenced by its affiliation with a recognized MNC. First, because of MNCs' direct financial investment in their affiliates (subsidiaries and associates) in emerging economies, the former tend to demand a greater amount of information than is required by local regulations from the latter to evaluate their performance, and prospects.

Second, the political costs of affiliates of MNCs are relatively high. The performance, behavior, and consequences of the operations of MNCs and their local affiliates are frequently monitored, evaluated, and analyzed by international governmental agencies such as the United Nations and host governments to serve as a basis for policy formulation. This is partly explained by the important economic role MNCs play in the development of their host countries and in the world trade. The relatively high level of local economic activities under the control of foreign MNCs has led to political pressure for the social control of these entities, and their local affiliates in emerging economies. In fact, some regard MNCs as sources of exploitation and agents of western imperialism (Kobrin, 1978, p. 240). The control of the local activities of these MNCs is partly also due to the alleged frequent abuse of corporate power by a few MNCs. Several MNCs have been accused, by their host countries, of tax avoidance (through transfer pricing), tax evasion, circumventing exchange controls, and discriminatory practices. To improve their bargaining powers with their host countries, MNCs tend to require detailed information on the operations of their affiliates. Also, because of high political costs, MNCs are more likely to insist on full compliance with all statutory and regulatory requirements of the host countries by their affiliates.

Finally, foreign direct investments by MNCs are often accompanied by technology transfer, including the accounting and disclosure practices at home, to their affiliates in emerging economies. This transplantation of foreign technology has enabled local affiliates to adopt more advanced systems relative to other local companies that are not so affiliated. As a consequence, these affiliates are likely to have more sophisticated financial reporting systems that facilitate greater disclosure in their annual reports than other local non-affiliated companies.

A sample company is considered to be affiliated to a recognized MNC if one of the following criteria is satisfied: (1) more than 50 per cent of its outstanding equity shares is owned by a recognized MNC, or (2) a MNC has a significant influence on its financial and operating policies (see IASC [1995] for several ways by which significance influence is exercised). A sample company is assigned a numeric value of one if any of the above criteria applies and zero if otherwise.

Profitability

Profitability has been identified, in prior studies, as capable of influencing the extent to which companies disclose mandatory information items in their annual reports (Cerf, 1961; Singhvi, 1968; Singhvi & Desai, 1971; Wallace & Naser, 1995; Inchausti, 1997). Several arguments have been advanced to support this proposition. For example, Cerf (1961) suggested that profitability is a measure of management performance, and as such the management of a profitable company is likely more to disclose information to support the continuance of their positions and the performance-related compensatory schemes that may be due to them. Inchausti (1997), employing signalling theory, states that management when in possession of "good news" due to better performance are more likely to disclose more detailed information to the stock market than that provided by "bad news" companies to avoid undervaluation of their shares. It can also be argued that unprofitable companies will also be inclined to release more information in defence of poor performance. Indeed, Lang & Lundholm (1993, p. 250) note that the influence of a company's profitability level on disclosure can be positive, neutral or negative depending on its performance.

Profitability is measured in two ways to capture different dimensions of profitability—operational efficiency (by return on turnover) and overall performance (by return on capital employed) of the reporting company.

Liquidity

It is hypothesized that a company's liquidity level impacts on its mandatory disclosure practices. According to Wallace & Naser (1995), regulatory bodies as well as investors and lenders are particularly concerned with the going-concern status of companies. In view of this, companies that are able to meet their short-term financial obligations without a recourse to the liquidation of their assets-in-place may desire to make this known through disclosure in their annual reports (Belkaoui & Kahl, 1978).

A sample company's liquidity position is measured by quick (acid test) ratio as it is a more stringent measure of corporate liquidity. It is defined as the ratio of current assets less stock to current liabilities. Using the conventional benchmark for acid-test ratio of one, companies in the sample whose computed acid-test ratio is at least one are assigned a numeric value of one and zero if otherwise.

METHODOLOGY AND RESEARCH DESIGN

Sampling Method

Due to the relatively small number of companies on the Official List of the ZSE, I contacted the entire population by post for a copy of their audited annual reports for the financial year ending in 1994.[4] The request for the 1994 corporate annual reports was influenced by two factors. First, they were the most recent data available on the listed companies at the start of the study. Second, 1994 was more stable than the previous two years. Zimbabwe experienced a severe drought in 1992 which adversely affected its entire micro- and macro-economic structures. The Zimbabwe economy showed signs of recovery during the

Table 1. Summary of Sample Selection Criteria

Description	*No. of listed companies*	*Percentage of the total* population
Companies with equity shares on Official List of the market as at 31 December 1994	64.0	100.00
Companies on the Official List that responded to my request for their 1994 annual reports	56.0	87.50
Deduct:		
Companies that listed in the last quarter of 1994	2.0	3.10
Companies in the banking, insurance, and other financial services industry	5.0	7.81
Companies with usable data (that is, the sample size)	49.0	76.56

latter half of 1993. Since compliance with legal and regulatory requirements entails costs, it was assumed that the listed companies may adopt selective disclosure strategy during 1992 and 1993. The use of a selective disclosure strategy would arise when compliance with reporting requirements will expose corporate reporters to adverse consequences. In such a situation, any attempt to capture disclosure adequacy in corporate annual reports will not be representative of the normal practice.

After a follow-up letter,[5] 56 of the 64 listed companies responded to the request for their annual reports. Some of the responding 56 companies were de-selected on the following basis. First, companies which were listed on the ZSE less than a year were eliminated. This was based on an assumption that the full impact of the disclosure requirements of the stock exchange on the financial reporting practices of listed companies can only be assessed realistically if they had been listed on the market for more than a year. On the basis of this assumption, two companies which listed on the ZSE in 1994 were eliminated. The second criterion was the elimination of companies registered under the Banking Act (Chapter 188) because such companies are exempt from complying with certain accounting requirements of Part I of the Companies Act. Hence, to ensure uniformity in financial reporting, five of these companies were de-selected. The resulting final sample consists of 49 companies, 43 (86 percent) of which are from the industrial sector of the ZSE, while the remaining six (14 percent) are from the mining sector. Although the sample is drawn entirely from ZSE listed companies, it is a true representation of the population of non-financial companies in Zimbabwe. Table 1 reports the sample design.

Model Development

A linear regression model which is assumed to hold for each sample company is specified below:

$$\begin{aligned} MDS_j = {} & \alpha + \beta_1 Size_j + \beta_2 Audit_j + \beta_3 Hold_j + \beta_4 Indus_j \\ & + \beta_5 Age_j + \beta_6 Multi_j + \beta_7 Profit_j + \beta_8 Liquid_j + U_j \end{aligned} \tag{1}$$

See Table 2 for summary definition of variables.

Table 2. Summary Statistics of Variables, Proxies and Notations in the Regression Model

Variable investigated	*Proxy of variable*	*Notation in model*	*Mean*	*Standard deviation*
Mandatory disclosure	Relative disclosure score	MDS_j	74.43	4.96
Company size	Log of capitalised equity values	$Size_{j1}$	5.463	0.466
	Log of total assets	$Size_{j2}$	5.419	0.443
Audit quality	Concentration ratio	$Audit_j$	0.531	0.504
Ownership structure	Proportion of outstanding equity shares held by corporate insiders	$Hold_j$	6.699	15.388
Industry type	Principal economic activity(ies)	$Indus_j$	1.918	1.038
Company age	Half-yearly since flotation date to December 1994	Age_j	51.143	28.827
MNC affiliation	Either ownership of more than half of the share capital or the presence of significant influence	$Multi_j$	0.306	0.466
Profitability	Returns on turnover	$Profit_{j1}$	16.584	9.336
	Return on capital employed	$Profit_{j2}$	9.380	7.401
Liquidity	Acid-test ratio	$Liquid_j$	0.388	0.492

EMPIRICAL RESULTS AND DISCUSSION

Table 3 summarizes the cross-sectional regression parameters of the four alternative specifications of equation (1) referred to hereafter as Models A, B, C, and D.

Since this study is concerned with the partial effect of each of the corporate attributes on the extent of mandatory disclosure and reporting, I tested for the presence and the nature of collinearity, if any, before any formal estimation of equation (1) was done by computing pair-wise correlation, tolerances (Panel B of Table 4) and variance (Panel C of Table 4) inflation factors (VIFs) for each corporate attribute.[6] The pair-wise correlations are reported in Panel A of Table 4. Only the correlation coefficient of the two empirical indicants of company size (i.e., log market values of equity and log total assets) is greater than the threshold level of 0.80.[7] Consequently, these indicants were not simultaneously included in any of the models. Though the sign of the coefficient and the associated observed significant level of the company size variable were the same, no matter which empirical indicant was used, it was measured by log total assets in all the regression models in Table 3.

Only one of the empirical indicants of the profitability variable (i.e., return on capital employed) was also included in the models reported in Table 3 for three reasons. First, the correlation coefficient of the two measures of profitability was significant, though it was below the threshold level of 0.80. Second, the inclusion of the two measures in any model renders the sign of the coefficient of the profitability variable negative, but not when included individually. Finally, the profitability variable becomes a significant predictor of mandatory disclosure whenever it is measured by return on capital employed.

Model A

Model A is a simple ordinary least squares (OLS) regression equation run with all the corporate attributes included. As was also indicated by the results of a univariate

Table 3. The Partial Effects of Corporate Attributes on Mandatory Disclosure (*t* values in parentheses)

Variable investigated	*Expected effect on mandatory disclosure*	*Model* A	B	C	D
Intercept	?	60.755***	4.672	55.130***	54.227***
		(6.205)	(1.236)	(6.784)	(5.296)
Company size	+	1.340	0.040	3.404**	3.059*
		(0.792)	(0.875)	(2.298)	(1.720)
Audit quality	+	−0.119	0.163	0.331	0.096
		(−0.082)	(0.128)	(0.287)	(0.063)
Ownership structure	−	0.073	0.081	0.082**	0.093*
		(1.484)	(1.546)	(2.143)	(1.814)
Industry-type†	?	−0.567	−0.472	−1.416**	−1.039
		(−0.787)	(−0.760)	(−2.352)	(−1.371)
Company age	+	0.056**	0.133**	0.061**	0.057**
		(2.281)	(2.361)	(3.016)	(2.235)
MNC affiliation	+	2.452	2.870**	3.569*	3.424**
		(1.541)	(1.983)	(2.767)	(2.047)
Profitability	?	0.843	0.009	0.067	0.259**
		(0.825)	(0.196)	(0.625)	(2.412)
Liquidity	+	1.311	1.250	0.447	0.633
		(0.875)	(0.970)	(0.362)	(0.402)
Adjusted R-squared		0.052	0.045	0.345	n/r
F statistic		1.326	1.284	3.830***	2.420**
Sum squares of error		933.77	681.32	482.00	n/r
Number of observations		49.00	49.00	44.00	49.00
Degrees of freedom		48.00	48.00	43.00	n/r

Notes: * Significant at the 0.1 level.
** Significant at the 0.05 level.
*** Significant at the 0.01 level.
? indicates that the nature of the effect of the corporate attribute on the extent of mandatory disclosure, as far as Zimbabwe is concerned, is not known.
n/r indicates that the statistic is not reported by the estimation procedure.
†Using the "others" industry category (Indus1) as a reference, in all the models, a hypothesis that the industry dummies are jointly zero was rejected by a Wald test. However, there appears to be is no evidence that mandatory disclosure is industry-related. Also, except for between the coefficients for Indus3 (manufacturing) and Indus4 (conglomerate) which was significant (F-statistic = 5.42, p-value = 0.0253); the differences between the coefficients for the rest of the industry-type dummies were not significant.

analysis not reported here, mandatory disclosure is an increasing function of only one corporate attribute, company age. Although the impact of company age on mandatory disclosure measured by its regression coefficient is not strong, it is significant at the 0.05 level. The t-statistics of the remaining corporate attributes are insignificant, indicating that they have negligible effect on mandatory disclosure practices of the sample companies.

I subject Model A to several diagnostic tests. A hypothesis that the model has no omitted variables was rejected by a Ramsey RESET test (F = 0.68, p-value = 0.572). Also, a Cook-Weisberg test for heteroscedasticity rejected a hypothesis that the regression residuals have constant variance (X^2 = 1.61, p-value = 0.205). Further, a Cook's distance test revealed that five companies (observations) in the sample exert disproportionate influence on the model's coefficients.

Table 4. Measures of collinearity of the empirical indicants of the corporate attributes

Variable	*Acid test*	*Age*	*Audit*	*Industry*	*Insider holding*	*Log market value*	*Log total assets*	*Return on turnover*	*Return on capital employed*	*MNC affiliation*
Panel A: Pearson product-moment correlation matrix										
Acid Test	1.0000	−0.0539	−0.0069	−0.2672*	−0.0359	−0.0222	−0.0534	0.0498	0.1100	−0.0742
Age	−0.0539	1.0000	0.0606	0.0219*	−0.0762	−0.0728	−0.0434	−0.1164	0.0383	−0.0359
Audit	−0.0069	0.0606	1.0000	−0.1243	−0.1005	0.0695	0.1796	−0.0264	−0.0808	−0.0851
Industry	−0.2672 *	0.0219	−0.1243	1.0000	0.0908	−0.0397	0.0248	−0.2703*	0.0379	−0.1390
Insider holding	−0.0359	−0.0762	−0.1005	0.0908	1.0000	−0.1519	−0.1229	−0.1136	−0.2193	−0.2352
Log market values	−0.0222	−0.0728	0.0695	−0.0397	−0.1519	1.0000	0.8889***	0.1267	−0.3183**	0.1373
Log total assets	−0.0534	−0.0434	0.1796	0.0248	−0.1229	0.8889***	1.0000	0.1686	−0.2511*	0.0949
Return on turnover	0.0498	−0.1164	−0.0264	−0.2703 *	−0.1136	0.1267	0.1686	1.0000	0.4271***	−0.0627
Return on capital employed	0.1100	0.0383	−0.0808	0.0379	−0.2193	−0.3183**	−0.2511*	0.4271**	1.0000	0.0779
MNC affiliation	−0.0742	−0.0359	−0.0851	−0.1390	−0.2352	0.1373	0.0949	−0.0627	0.0779	1.0000
Panel B: Tolerance[†]										
Test statistic	0.8738	0.9541	0.8587	0.7156	0.8351	0.1787	0.1819	0.5812	0.5527	0.8262
Panel C: Variance inflation factor (VIF)[††]										
Test statistic	1.14	1.05	1.16	1.40	1.20	5.59	5.50	1.72	1.81	1.21

Notes: * Two-tailed significant at the 0.1 level.
** Two-tailed significant at the 0.05 level.
*** Two-tailed significant at the 0.01 level.
[†] Collinearity is a problem if the measure of tolerance of a variable is zero (Gujarati, 1995, p. 339).
[††] The general rule suggests that collinearity is a problem if the VIF of an independent variable exceeds 10 (Gujarati, 1995, p. 339).

Two ways have been suggested in the econometrics literature (see, e.g., Bollen & Jackman, 1990; Kassab, 1990) to mitigate the effects of influential observations on regression statistics. The first is to estimate a rank regression which assigns "equal weight to all points" in a data set whether it is influential or not (Iman & Conover, 1979, p. 502). The second is to remove the influential observations from the data set. To address the problem of outliers, the next two models were estimated based on the above suggested procedures.

Model B

Model B is a rank (OLS) regression which treats all observations equally in the data set whether it is influential or not. Rank regression has been estimated in several prior studies (see, e.g., Lang & Lundholm, 1993; Wallace et al., 1994; Wallace & Naser, 1995). Model B was estimated with rank transformation of the MDSs of the sample companies and four corporate attributes measured on continuous scale (i.e., company size, ownership structure, company age, and profitability). The raw (untransformed) data on the empirical indicants of these corporate attributes and the MDSs were assigned ranks; ordered from smallest to largest. The regression was run with these ranks[8] plus those corporate attributes measured on interval scale (i.e., external audit quality, industry-type, MNC affiliation and liquidity). While the F statistic of Model B which tests the hypothesis that none of the corporate attributes helps to explain the variation in mandatory disclosure indexes is not significant at the conventional levels (p-value = 0.279), an examination of the regression statistics for the individual corporate attributes suggests otherwise. For instance, company age emerges again as the most significant predictor of the extent of mandatory disclosure at the 0.05 level. The MNC affiliation variable, for the first, also became significant at the 0.10 level. The consequence of the variable, MNC affiliation, becoming a significant predictor of mandatory disclosure is the intercept losing its significance. The intercept also experienced a drastic change in the numerical value of its coefficient (now having only a moderate effect), though, it is still positive. While rank regression is considered "robust" in mitigating many of the methodological problems associated with skewed distribution and negative values (Kane & Meade, 1997), Wallace et al. (1994) noted, however, that rank transformation compromises the significance of the resulting model. Indeed, this is evident in Table 3. The explanatory power of Model B is relatively weaker than those of Models A and C.

Model C

As noted earlier, another means of overcoming the effect of influential observations is to remove those observations from the data set. Model C which is also an OLS was estimated after those influential observations have been removed from the data set. The results of this model suggest that five of the corporate attributes have statistically significant effect on mandatory disclosure. While company age and MNC affiliation have a positive significant effect on mandatory disclosure at the 0.01 level, company size and ownership structure of issued equity shares have a positive significant effect at the 0.05 level. Also, the industry-type variable, for the first time, became significant at 0.05 level but still have a negative effect on mandatory disclosure. Further, like the other models the intercept of Model C is also positively significant at the 0.01 level.

In spite of the relatively good performance of Model C, the data-removal procedure has been criticized in the econometrics literature (see Dietz et al., 1987; Bollen & Jackman, 1990; Kassab, 1990). For instance, Bollen & Jackman (1990) argued that the data-removal procedure is misleading and a severe remedy because an observation that is an outlier in one setting may not be an outlier in another. Kassab (1990) also added that deleting outliers identified by univariate diagnostic tests such as stem-and-leaf plot is not effective as they do not detect multivariate outliers (i.e., those observations appearing as outliers when two or more variables are viewed in combination).

Another problem of the data-removal procedure is that it reduces sample size which may not be advisable if the sample size is small, as in this study. Quite apart from these, identifying the outliers is not enough. The presence of outliers in a distribution merely suggests that the sample is not from a normal distribution; it does not tell whether the distribution is skewed or long-tailed symmetric. In view of this problem and the fact that theoretical advantages of OLS estimates can not be claimed for the estimates of Models A, B and C as my data is outlier-prone, I employed an estimator which is more "robust" than the OLS to departures from normality. This estimation procedure is now discussed.

Model D

Model D is a *robust* regression. Estimates of robust regression are substantially better than those of OLS in non-ideal (e.g., if residuals are not normally distributed) situations (Kassab, 1990). Several robust estimators have been suggested in the econometrics literature including least absolute deviations, bounded influence estimator, least median of squares, biweight least squares (BLS) and Huber estimator (the procedures are described in Dietz et al., 1991, pp. 464-466 and 474). Both the Huber and the BLS robust estimators were employed in analyzing the data of this study. The rationale is that the Huber estimator improves the behavior of the BLS estimates (Stata Corporation, 1997). Huber estimator is limited in dealing with effects of severe outliers which BLS is able to resist fairly, but sometimes fail to converge to zero or have multiple solutions (Li, 1985; Dietz et al., 1987; Dietz et al., 1991; Stata Corporation, 1997).

The Huber and the BLS estimators are iterative techniques which assign weights to observations. The weights are based on absolute residuals associated with each observation on a previous iteration (Stata Corporation, 1997). The Huber estimator assigns observations with small residuals with weights of one, and those with larger residuals receive smaller weights. In the case of BLS, however, observations with non-zero residuals are down-weighted, but those with larger residuals are assigned zero weights and thus effectively dropped. The regression is run iteratively until the maximum changes in weights converge to zero (Li, 1985). The results of this estimation procedure (Model D), also reported in Table 3, suggest that company size, ownership structure, company age, MNC affiliation, profitability, and the intercept have statistically significant effect on the extent of mandatory disclosure, but at different levels. However, while the intercept is very significant at the 0.01 level, company age, MNC affiliation and profitability are significant at the 0.05; and company size and ownership structure are significant at 0.10 level.

Because sampling properties of robust estimators are not known in small samples (Dietz et al, 1987; Dietz et al., 1991; Stata Corporation, 1997), and the sample size of this study is small I employed a non-parametric bootstrap procedure, as suggested in the econometric literature, to assess the sampling variability of robust estimators of Model D (i.e., to re-estimate the standard errors of the coefficients of Model D).[9] Bootstrapping provides a means of estimating standard errors and obtaining confidence intervals for true parameter values when distributional assumptions of the population are untenable. Mechanically, the bootstrap procedure works as follows: For a sample of n size, a bootstrap sample of k size is randomly drawn from the original sample with replacement. The regression coefficients are estimated using this bootstrap sample. A second bootstrap sample of k size is then drawn from the original sample, and the process is repeated (called a replication) until enough bootstrap samples have been drawn to provide estimates of the standard error of the parameters of interest. Some observations may not be selected at all in the process, while others may appear more than once (Efron, 1982; Rasmussen, 1987).

Complementing the robust regression with the bootstrap procedure provides efficient and unbiased parameter estimates and unbiased estimates of standard errors (Dietz et al., 1987). Thus, robust and bootstrap estimation procedures, when used together, resolve the problem of non-normal residuals. The regression estimates of Model D reported in Table 5 are based on 100 bootstrap replications.[10] The bias in sample estimates of the regression coefficients because of the outliers are also reported in Table 5. Efron (1982, p. 8) suggests that the estimated bias should not be of concern if it is less than 25 per cent of the associated standard error. He suggests further that the bias-corrected confidence interval should be reported instead, if the estimated bias is more the 25 per cent threshold. All the estimated bias shown in Table 5 except those for MNC affiliation and profitability are below 25 per cent of the associated standard errors. Hence, the reported confidence intervals for these two corporate attributes are bias-corrected. The confidence intervals for the other six corporate attributes are based on the assumption of approximate normality of the sampling (and hence bootstrap) distribution.

The assumption of normal distribution of regression residuals makes it possible to evaluate the statistical significance of the effect of each of the corporate attributes on the extent of mandatory disclosure as reflected by Model D. Consequently, a normality test was done

Table 5. Bootstrapped estimates of Model D

Corporate attribute investigated	*Observed BLS coefficient*	*Standard error*	*Bias*	*Percentage bias of standard error*	*Confidence interval (5 percent level)*	
Company Size	3.059	3.206	−0.337	10.51	−3.303	−9.421
Audit quality	0.096	2.017	0.067	3.32	−3.907	−4.098
Ownership structure	0.093	0.061	−0.002	3.28	-0.028	−0.214
Industry-type	−1.039	1.325	0.003	0.23	−3.670	−1.591
Company age	0.057	0.034	−0.005	14.71	-0.009	−0.124
MNC affiliation	3.424	2.662	−0.716	26.90	−2.617	−8.603†
Profitabilty	0.259	0.255	−0.146	57.25	−0.282	−0.492†
Liquidity	0.633	2.257	0.133	5.89	−3.846	−5.112

Note: †Suggests a bias-corrected confidence interval, as the estimated bias is more than 25 percent of the standard error (Efron, 1982).

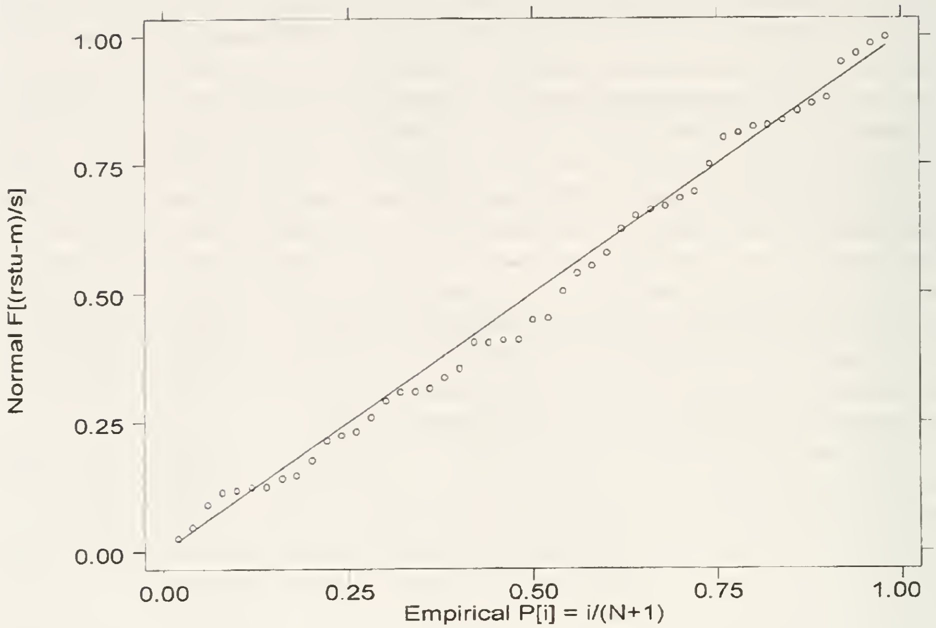

Figure 1. Normal probability plot of regression studentised residuals of Model D

on the studentized residuals of Model D. A visual inspection of the normal probability plot of studentized residuals of Model D in Figure 1 suggests that its error term is fairly normally distributed as the data points cluster around the straight line.

The result of the positive effect of company size on mandatory disclosure, though significant at the 0.10 level, suggests that large companies are better in disclosing mandated information as their competitive advantage will not be weakened by such disclosure as it might be for small companies. In addition, large Zimbabwean companies that are affiliated with MNCs tend to have access to modern technology and are more capable of producing information that are less costly than non-MNC affiliated Zimbabwean companies. Hence, the tendency for such companies to disclose more information in their annual reports is more likely in Zimbabwe. The positive relationship between company size and mandatory disclosure is consistent with the results of similar studies conducted on some emerging economies such as in Hong Kong (Wallace & Naser, 1995); and in Bangladesh (Ahmed & Nicholls, 1994).

The positive effect of MNC affiliation on mandatory disclosure can be attributed to the insistence of head offices of MNCs for high quality information from their local affiliates in Zimbabwe. Apart from the use of this information for internal purposes, the headquarters of MNCs use such information to strengthen their bargaining power in negotiations with trade unions and host governments. Of particular relevance here is the fact that the President of the Republic of Zimbabwe is well noted for his position on the ill-effects of imperialism and activities of MNCs on developing countries' economies and other issues in international politics. In view of this, MNCs with affiliates in Zimbabwe insist on full compliance with that country's statutory and regulatory requirements as a means of avoiding or reducing political costs.

The finding that ownership structure is positively related to mandatory disclosure is inconsistent with agency theory. In the context of disclosure studies, this theory suggests that companies whose equity shares are predominately held by insiders tend to disclose less information in their annual reports. The positive relationship between ownership structure and mandatory disclosure, reported in this study, questions the general assumption that in countries where either the state (e.g., China), banks (e.g., Germany and Japan) or certain families (e.g., Hong Kong) hold greater proportion of corporate voting shares, there is a tendency for companies to disclose less information in their annual reports and accounts (Wallace, 1987, 1993; Wallace & Naser, 1995; Cooke, 1992, 1993; Kaplan, 1997). Perhaps, the implications of the agency theory for disclosure relate more to voluntary disclosure than to mandatory disclosure.

Although the impact of company age on mandatory disclosure is not strong, it is significant at the 0.05 level. The positive impact of company age on mandatory disclosure can be explained in terms of the principles of learning curve. It takes newly-listed companies longer time to become used to the demands of being public companies including their external financial accounting and reporting responsibilities. In other words, a company's disclosure score increases over time as it becomes used to being a public listed company. The superiority of the older listed companies on the ZSE in disclosure practices can also be attributed to their long association with corporate managers of some UK companies. Indeed, most of these older companies in Zimbabwe were once managed by UK expatriates in that country before the country's independence in 1980. In spite of the above reasons, the hypothesised relationship was, however, not supported in Henderson (1969).

Similarly, the positive effect of profitability on mandatory disclosure is consistent with signalling theory which, when applied in the present context, suggests that managers of profitable companies are more likely to disclose more information in their annual reports to justify their salaries (Singhvi & Desai, 1971), and to signal their superior performance to the market (Wallace et al., 1994). The significant positive relationship between profitability and mandatory disclosure is consistent with the results reported in Wallace et al. (1994).

The finding that audit quality is not a significant predictor of the extent of mandatory disclosure in Zimbabwe agrees with those of Singhvi (1968) for India; Tai et al. (1990) for Hong Kong; Cooke (1992) for Japan; and Wallace et al. (1994) for Spain. Similarly, the finding that industry-type is not a significant discriminator agrees with those of Patton & Zelenka (1997) in the Czech Republic. Finally, the irrelevance of liquidity as an explanatory variable in Zimbabwe agrees with the finding of Wallace & Naser's (1995) in Hong Kong.

CONCLUSIONS, LIMITATIONS AND SUGGESTIONS FOR FUTURE RESEARCH

This article reports the results of an empirical study in which the impact of eight corporate attributes on mandatory disclosure was investigated by employing alternative specifications of a multiple linear regression. The results of the robust regression analysis indicate that each corporate attribute has a differing impact on mandatory disclosure.

While company age, profitability, and MNC affiliation were positively significant at the 0.05 level, company size and ownership structure were also positively significant at the level of 0.10. On the extreme, whereas the intercept is significant at 0.01 level, audit quality, industry-type and liquidity were not significant at any of the three criterion levels. In sum, company age, MNC affiliation, company size, MNC affiliation, profitability, company size, and ownership structure have significant positive impact on mandatory disclosure practices of the sampled ZSE listed companies. The results suggest that the regulators of financial accounting and reporting in Zimbabwe should focus more on newly-listed, small, loss-making, non-affiliated and closely-held companies in their effort to ensure adequate supply of mandated information in corporate annual reports in Zimbabwe.

There are several limitations of this study. First, the subjectivity problem inherent in scoring the annual reports of the sample companies may not be completely eradicated. There are unavoidable subjectivity in the scoring process. Second, each disclosure item was assumed to have the same information content. Thus, a disclosed mandated information item was awarded one mark and zero for a non-disclosure. In the real life, some information items may have higher value to users of corporate annual reports than others, and as such the items should have been weighted to reflect their relative importance. Third, regression analysis does not resolve issues of causality. Consequently, the coefficients of the significant corporate attributes in the Model D should not be taken as elasticities that predict how much mandatory disclosure will change following a change in any of those attributes. The estimated coefficients of these attributes and their associated t statistics rather evaluate the strengths of their partial effects on mandatory disclosure. Finally, while statistical analysis helps to determine the nature and the magnitude of the impact of the significant corporate attributes on mandatory disclosure, it tells nothing of the *reason* for such relationship.

Notwithstanding the above limitations, the results are sufficiently interesting to warrant an extension to a larger sample size, and of course, to other emerging economies. Another approach that could be adopted in any future research is to model the relationships between corporate attributes and mandatory disclosure as non-linear. The relationship between specific corporate attributes and mandatory disclosure may not always be linear as generally assumed in the literature. Ramanathan (1995, p. 253) has stated that the linear relationship usually assumed to subsist between dependent and independent variables in regression models is "a severe and often unrealistic constraint on a model." Finally, a number of potential independent variables were not considered in this study. A potentially important variable that could possibly be included in the model is the ethnicity of corporate managers of the sampled companies. This is because Zimbabwe consists of three main ethnic groups—the native blacks, the immigrant Europeans and Asians. The support for investigating the effect of ethnicity of corporate managers on mandatory disclosure is provided by Singhvi (1968) and Wallace & Naser (1995). For instance, Wallace & Naser (1995) found significant differences in disclosure comprehensiveness between Chinese and non-Chinese managed companies in Hong Kong. Future research studies may also investigate the effects of, say, the establishment (or otherwise) of corporate audit committees and gearing on mandatory disclosure.

NOTES

1. The literature is comprehensively reviewed elsewhere (see Owusu-Ansah, 1998).
2. Stevenson (1980, pp. 9-11) provides categories and examples of information, which if disclosed, might create competitive disadvantages. They include information about technological and managerial innovation (for example, production processes, quality-improvement techniques); strategies (planned product development); and about operations (for example, segment sales and production cost figures).
3. Priebjvirant (1991) presents a contrary evidence in Thailand. His findings do not support the hypothesized relationship between levels of disclosure and costs of capital as measured by both beta and total risk.
4. Unlike the US, the UK and several other countries, data on companies listed on the ZSE including their annual reports are not available in magnetic format and databases. Therefore, requesting copies of annual reports from the ZSE listed companies was the best and the quickest means of accessing these important data.
5. A cut-off period of six months, commencing from the month in which the initial request was made, was imposed after which it was considered that a listed company was not interested in providing its annual report.
6. Although the correlation procedure is commonly used in empirical studies, it is incapable of detecting linear relationships among more than two variables. Because of this problem, I also computed tolerances and variance inflation factors for each of the corporate attributes. The results (reported in Panels B and C of Table 4) suggest no evidence of serious collinearity.
7. As suggested by Gujarati (1995, p. 335), collinearity becomes a serious problem if its coefficient is greater than 0.80. In addition, the correlation between the two indicants of company size is also significant at the 0.05 level.
8. Unlike Lang & Lundholm (1993) and Wallace & Naser (1995), the ranks in this study were not converted to percentiles. Because a regression run by the present investigator with ranks and another with ranks converted to percentiles (not reported here) yielded similar results.
9. The bootstrap procedure offers two advantages over parametric technique in estimating regression coefficients. First, it does not depend on the distributional assumptions required by parametric tests. Second, the bootstrap procedure retains distributional information about the original sample (Rasmussen, 1987). Unlike other non-parametric techniques which convert raw data to ranks (see Conover & Iman, 1981), the bootstrap procedure does not throw away the distributional information about the original sample from which the bootstrap sample was drawn. In spite of these advantages, the bootstrap procedure has several limitations. First, its assumption that "the empirically generated sampling distribution of the bootstrap provides an accurate estimate of the sampling distribution of the statistic" has not been made clear by its advocates (Rasmussen, 1987, p. 137). Second, it yields excessively liberal Type I error rates and excessively restricted confidence intervals. Rasmussen (1987) compared the bootstrap and parametric approaches to estimating confidence intervals and Type I error rates of correlation coefficients of several samples ranging from 5 to 60. He found that the bootstrap procedure results in overly liberal Type I error rates and overly confidence intervals than the parametric technique. Rasmussen (1987) observed further that the bootstrap procedure performs poorly on both normally-and non normally-distributed data. Third, it is more appropriate for large sample size due to its asymptotic attribute (see Bickel & Freedman, 1981 for further discussion). Finally, it requires a highly powered computer to carry out the large number of computation involved.
10. The choice of the 100 bootstrap replications was influenced by the suggestion of Mooney and Duval (1993, p. 11) that 50 to 200 replications are generally adequate for estimates of standard

error and thus adequate for normal approximation confidence interval, which are based on the standard error estimates.

Acknowledgments: This article draws on the analyses in the doctoral thesis I submitted to Middlesex University, England. I acknowledge the continual support and suggestions of my thesis adviser, Professor R. S. Olusegun Wallace. I also appreciate the helpful comments of Professor Donal McKillop and Mr. Peter Oyelere on the earlier drafts of the thesis. I am also grateful to Dr. Titus Oshagbemi for helpful comments on an earlier draft of this article. I acknowledge the travel grant awarded by the Wincott Foundation, England for data collection in Harare, Zimbabwe and the logistic support provided by King Fahd University of Petroleum and Minerals, Dhahron, Saudi Arabia.

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The International
Journal of
Accounting

The State of Accounting in Armenia: A Case

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Key Words: Armenia, Chart of accounts, Commonwealth of Independent States, Culture, Economic restructuring, Government, International accounting standards, Privatization.

Abstract: *Armenia is a third-world country with a marginal economy and no capital markets to speak of. The government is bureaucratic. Corruption is widespread and secrecy has long been a tradition in business. Accounting is cash-based and oriented to the stewardship needs of the government. There is no tradition of accounting for management decision making, much less accounting for external, non-government users. Education for accounting has essentially been in technical bookkeeping. Armenia has been attempting to privatize its economy but in order to do so it needs to restructure its accounting system.*

The focus of this case is the accounting system currently prevailing in Armenia and reforms necessary to enhance its usefulness for decision making to investors and creditors. Specifically, the purpose of the case is to provide advice on reforming accounting in Armenia, so enterprises can prepare useful financial reports. Once that task is accomplished, Armenian enterprises could attempt to raise funds from external private sources. With a view towards that end, Armenians need considerable assistance to achieve an understanding of other accounting systems—their rationale and how to apply them. Seminars by experts from other countries are desirable to teach Armenians private enterprise accounting.

This case has considerable potential for use in international accounting and accounting policy courses at both the undergraduate and graduate levels. We assume that students analyzing this case will have had some exposure to basic concepts of international accounting, including the Anglo-Saxon, Continental, and Mixed Economy frameworks and perhaps also to the cultural aspects of accounting systems. If they do not, then the students can read the articles included in the references in the process of preparing this case. The case can be used in covering new developments in accounting standard setting in either one or two class sessions. If two sessions are allocated for the case, then the first session could deal

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The International Journal of Accounting, Vol. 33, No. 5, pp. 633-654 **ISSN: 0020-7063.**

with the various international accounting frameworks and Hofstede's and Gray's cultural values applied to accounting. The second session could be used for coverage of the case itself.

The process of reforming accounting is the main issue addressed within this case. The politics of setting standards is also a principal concern. Students might engage in role-playing in analyzing this case in class—one student could be the Minister of Finance, a second a consultant from a large accounting firm, a third a representative of the World Bank, a fourth a representative of the U.S. Agency for International Development, and perhaps a fifth a potential private investor from abroad.

CASE

The early 1990s was a time of historic change in the former Soviet Union and the Republic of Armenia. The Communist party was overthrown in 1991, marking the end of the 74 year old Union of Soviet Socialist Republics and the fall of the Iron Curtain. In 1991, 99 percent of voters in Armenia participated in a referendum to decide if the former Soviet republic was to become an independent democratic state. The measure passed overwhelmingly. Also in 1991, the Supreme Soviet declared Armenia an independent state. The euphoria surrounding Armenia's independence waned upon realization that transformation to a democratic republic and economic privatization would be an arduous process.

The smallest of the former Soviet republics, Armenia is a mountainous country built on volcanic lava. This earthquake-prone republic borders on Georgia to its north; Azerbaijan east; Iran south; and Turkey west. While Armenia has no direct access to international waterways, Turkey and Iran do have such access.

Since 1983, Armenia has been engulfed in a dispute with Azerbaijan over land within the latter country, populated mainly by Armenian Christians who seek to take over the disputed territory. Armenia is also preoccupied with reconstruction of buildings destroyed in a 1988 earthquake. The earthquake killed an estimated 25,000 people (*The Europa World Year Book 1995*, p. 397).

Economic conditions in Armenia have deteriorated significantly in recent years. Gross domestic product (GDP) has declined substantially, inflation rates have soared, and food and energy shortages have become widespread. In 1992, Armenia's GDP declined by 52 percent; consumer prices increased by 100 percent in 1991, and 973 percent in 1993 (*The Europa World Year Book 1995*, p. 400).

The deterioration of the Armenian economy stems from factors both inside and outside the republic's borders. Armenia produces less than 1 percent of its energy requirements, relying on imports from Russia and other republics to supplement its production (*The Europa World Year Book 1995*, p. 400). Armenia's single nuclear power plant was closed in 1988 because of damage sustained in the earthquake. The year 1993 marked the third consecutive winter that Armenian citizens had been forced to endure cold temperatures, without heat and light for extended periods of time (*The Europa World Year Book 1995*, p. 399). In 1989, Azerbaijan imposed an economic blockade on Armenia, curtailing the source of 90 percent of Armenia's imports from other republics (*The Europa World Year Book 1995*, p. 400). A conflict in Georgia has also impeded the import of much needed supplies and fuels. Compounding the deterioration of the economy has been an increase in immigration. There is considerable inability to adjust in the former Soviet republics, and Armenia is no exception. In a totalitarian society, people are accustomed to being told what to do, and have no experience in making decisions and taking responsibility for such decisions. Seven years after the collapse of the Iron Curtain, chaos and poverty prevail in Armenia even though most of the farmland has been given to the people and industrial privatization is actively pursued.

Major Models in Financial Reporting

There are three major models of financial reporting world-wide, with considerable variation among countries in which the models are used: (1) Anglo Saxon; (2) Continental; and (3) Former Soviet Union and Eastern European.

The Anglo-Saxon model emphasizes investors and creditors in that order as the principal users of financial reports. This model has been adopted in English-speaking countries. Fairly sophisticated investors and creditors are the principal users of financial reports. Emphasis is placed on the application of those reports in the financial decision-making process. Significant disclosures are generally furnished in those reports. Additionally, accounting standards and income tax regulations differ from each other in those countries.

Though common in Europe, the Continental model is not confined to European countries. Japanese and Brazilian systems, among others, also reflect this model. The main users of financial reports are bankers, governments, and in some South American countries wealthy landowners. Emphasis is placed on conveying stewardship information for credit purposes and for adherence to national economic policies. Accounting standards in the Continental model have a legalistic bent. The government is usually the principal, if not the sole, standard setter. Accounting standards and tax regulations are similar or identical. With the occurrence of hyperinflation, inflation accounting is mandatory in several South American countries.

Accounting systems in the former republics of the Soviet Union, including Armenia and other former Warsaw Pact countries in Eastern Europe, reflect a third accounting model. Today these countries have mixed economies, a combination of socialism and capitalism in varying degrees. With economies in transition, such countries have accounting frameworks reflecting the Russian (1966–1991)—emphasizing budgets, fund accounting, and stewardship with the government as the user—along with the post 1991 Russian—reaching out to foreign investment and privatization, encouraging the profit motive in business enterprises. In the Russian (post 1991) [Enthoven, (1992); Enthoven and Sokolov, (1993)] accounting framework, investors and creditors are the fundamental users of financial reports.

The Problem in Brief

Based on tradition, Armenia is fixated on a chart of accounts it has used since 1966 from its Russian (1966–1991) accounting system. The chart of accounts provides for about 1000 different account titles. Fixation pertains to the "form" of accounts, regardless of their underlying substance. Government bureaucrats, in particular, cannot understand how a new accounting system conceivably could operate in their country. Basically, the current Armenian accounting system possesses the following attributes:

1. Their internal accounting system is oriented toward custodial stewardship rather than efficiency.
2. Their accounting deals exclusively with historical costs.
3. A system of fund accounting is used.
4. A modified cash basis is used. Revenue is recorded on a cash basis while expenses are accrued, producing a conservative mismatch in the income statement. Nevertheless, it appears that Armenia is attempting to move to an accrual basis.
5. Many transactions involve barter, and are recorded as such (e.g., gold watches for trade credits in another country). Foreign transactions are denominated in dollars or handled through barter.
6. The balance sheet is cluttered with accounts from the chart of accounts.
7. The income statement is all too brief.
8. The lower of cost or market is not applied to inventories.
9. Income is most likely overstated from application of FIFO to inventories in a period of inflation, which has recently been 5 percent a month or 60 percent a year.
10. There is no required accounting or disclosure for hyperinflation.
11. Bad debts are not accounted for.
12. It is not clear how depreciation is measured.
13. There does not appear to be a logical allocation of costs, including factory overhead.

While the need for a major restructuring of the accounting system currently in place in Armenia is evident to outsiders and a necessary condition to enhance Armenia's ability to attract foreign investment, the leaders focus on trivial problems. The Ministry of Finance and the Central Bank appear to be feuding over the chart of accounts—in particular which accounts to use for which purposes.

So accustomed are Armenians to preparing accounting reports for a totalitarian government that they will need considerable persuasion to change their accounting mindset as well as guidance towards that end. The accounting "profession," to the extent one exists in Armenia, has had a low status. Traditionally accountants have been viewed as bookkeepers, not decision makers. The functions of accountants have been limited to planning and taxation by the government. Accounting judgment was not involved or practiced. Accounting information has not been used by investors or creditors.

Currently, Armenians are responsible for their own country's economic development, which virtually mandates foreign investment. If such investment is to occur, a suitable private enterprise accounting system with an independent audit has to be set in place.

Privatization is far from reality in Armenia. At this juncture, privatization is more a wish than a reality. Most transactions still involve the government. Privatization requires restructuring of the accounting system for the enterprises as well as adoption of International Accounting Standards, other countries' standards, or their own standards. Such options could be consistent with the use of the chart of accounts. However, Armenians lack the mindset to envision this. They would be unable to make a proper mapping from the chart of accounts to the accounting elements. For a new system to be successful, Armenians will have to reform their management accounting[1] to prepare reliable reports for themselves and external users. The external users have to be clearly defined; for example, the World Bank (from which they wish to borrow funds), the government, and the overseas investor.

There have been numerous attempts to aid Armenia in its goal to privatize. Some of the large grant projects for the Commonwealth of Independent States (CIS) of the former Soviet Union funded by the Agency for International Development (AID) have been unsuccessful because they have been premature. However, some of the smaller projects appear to be more manageable and successful. All too many consultants from abroad have been traveling to CIS without any significant knowledge of the culture and problems of a particular country to "advise" the people living there on how to manage their business enterprises—to the utter disappointment of their hosts. Because consultants from abroad represent different groups, sometimes the advice they provide is conflicting.

Before presenting the case questions, an important point should be emphasized: Armenia must develop an accounting system to prepare useful financial reports to reflect the operating performance and financial position of the enterprise. Without such a system, adoption of International Accounting Standards, its own generally accepted accounting principles (GAAP), or any other GAAP would be of no value. On the other hand, no matter how good the accounting system and how generally accepted the accounting principles, they alone cannot guarantee economic growth. Armenia needs entrepreneurship and profitable industry.

CASE QUESTIONS

The following questions can be assigned for students to prepare prior to or after coverage of this case in class. Before responding to most of the questions, students will have to read outside source material. The references that follow the case questions are suggested readings for the students. Furthermore, students are well advised to use the Internet to obtain up-to-date information about Armenia.

With respect to question 6 below, we selected France and Germany along with the U.S. and IAS accounting standards as a likely set of foreign standards from which Armenia may wish to borrow in formulating its own standards. As a separate handout for the students besides the case itself, we have provided a comparative analysis of GAAP in the U.S., France, Germany, IAS, and Armenia (Russia, 1966–1991) as well as post 1991 Russia.

1. What, specifically, do you think Armenia should do to restructure its accounting system? Develop concrete proposals. [See articles by Enthoven (1992), Enthoven, Sokolovano, & Petrachkov (1992), and Enthoven and Sokolov (1993), in particular.]
2. How can Armenia be described in terms of the culture model set forth by Hofstede (1980) and the accounting framework developed by Gray (1988)? [See article by Gray in particular.]
3. To what extent does Armenia's current accounting system reflect its culture? In your judgement is the influence of the culture appropriate? [See article by Gray in particular.]
4. Develop a suitable conceptual framework for financial reporting in Armenia. [See FASB Statements of Financial Accounting Concepts No. 1 and 2 (1978, 1980).]

5. Compare Armenia's Generally Accepted Accounting Principles from 1966–1991 with Russia's post 1991 Generally Accepted Accounting Principles.
6. Compare Russia's post 1991 Generally Accepted Accounting Principles with its counterparts in:

   a. the U.S.
   b. France
   c. Germany
   d. International Accounting Standards [See the Handout.]

7. Explain what you perceive to be the pros and cons of Armenia adopting IAS, U.K., or U.S. standards. [See Schneidman(1997) and Radebaugh and Gray (1997).]
8. Explain what you perceive to be the pros and cons of Armenia adopting accounting standards from other countries on a selective basis. [See Schneidman (1997) and Radebaugh and Gray (1997).]

Acknowledgments: We appreciate the comments made by an anonymous reviewer on earlier drafts of this paper and the encouragement of the editor in revising the draft. Additionally, we are grateful to Armen Jugurian for his comments on the teaching notes.

APPENDIX: TEACHING NOTES

Question #1

What, specifically, do you think Armenia should do to restructure its accounting system? Develop concrete proposals.

We suggest the following course of action. Look to other developing countries for their experiences in much the same situation and to observe how they coped with similar circumstances (e.g., Poland, Vietnam). Consult with representatives from developed countries (e.g., U.S., U.K., for their expertise).

Armenia ought to sponsor seminars for the "accountants" they currently employ, focusing on the importance of private enterprise accounting and professionalism. How business accounting can serve Armenia in improving the management of the enterprise and in privatizing the economy ought to be stressed in these seminars, which should be conducted by a coordinated group of professional and academic accountants from abroad who are familiar with the culture of the country and its current needs. Before Armenia can adopt international accounting standards or standards from other countries, accountants and governmental officials need to understand the role of such standards in business decision making. Investors and creditors from other countries will not finance Armenian enterprises unless they expect to receive relevant and reliable financial statements pertaining to the performance of those enterprises.

Once Armenians have achieved an understanding of the role of accounting standards in business, they can then turn their attention to formulating a conceptual framework and deciding upon the standards to adopt for their country—either international accounting standards, standards of another country such as the U.K., selected standards from several different countries, or their own, tailor-made standards.

After Armenia has selected their preferred accounting standards, additional seminars will be necessary to teach accountants how to apply those standards. Again, accountants from other countries, if coordinated, can assist in this endeavor.

Additionally, Armenian accountants have to understand the importance of independent auditing and ethics in financial reporting and to concentrate on facilitating development of their own auditing profession. For financial reports to be reliable for investors and creditors, they must be independently audited. Seminars on internal and external auditing and how to develop an auditing profession are also necessary.

International accounting firms have been establishing offices in various CIS. Such firms can provide sorely needed accounting, consulting, and auditing services to CIS governments and enterprises, assist in the implementation of new accounting standards, and help in privatization of the economy.

We would expect Fulbright scholars from the U.S. to teach at CIS universities, particularly in Armenia. By the same token, university students from Armenia should have greater opportunities to study abroad, e.g., at American universities, and to return to their own countries with a better understanding of business enterprises and their accounting.

Given the tradition of CIS, the accounting profession will not develop in those countries on its own over night. A more likely scenario would be for the governments to encourage the profession to grow through uniform education, testing, and licensing of professional accountants. Governments can also sponsor continuing education programs for professional accountants.

Question #2

How can Armenia be described in terms of the culture model set forth by Hofstede (1980) and the accounting framework developed by Gray (1988)?

Hofstede asserts five cultural values derived from a survey of employee attitudes from 50 countries:

1. *Individualism*—a preference for individual responsibility with emphasis on the individual, as opposed to collectivism within a tightly knit social network. In Armenia, a developing country, collectivism still prevails over individualism to a significant extent (Jugurian, 1997). Especially in times of crisis—persecution and war, the Armenians work together very well (Lang, 1978, p. 291). They are patriotic, heroic, and loyal to their country (Atamian, 1955, p. 264). Given a tradition of social interdependence, the group receives higher priority than the individual in this country.
2. *Power distance*—the extent to which people in a society accept unequal distribution of power, i.e., hierarchies in institutions and organizations. A large power distance is a traditionally accepted way of life in Armenia. After all, Armenia has long been a communist country. People are used to being told what to do and when to do it. However, unlike other communist countries, "for Armenians, self-initiative is more typical than group feeling" (Jugurian, 1997).

3. *Uncertainty avoidance*—the extent to which people feel uncomfortable about uncertainty, risk, and ambiguity. Armenians are highly risk averse, displaying a low threshold for ambiguity and frustration. With a history of persecution and war, Armenia still faces an uncertain future in view of conflicts with neighbors, not to mention criminal elements within the country—organized corruption and drug traffic (Curtis, 1995, pp. 77–78). There is a lack of effective law and order in the country. Uncertainty avoidance is one reason that Armenians are so attached to their chart of accounts, which stems from traditional communistic centralized planning systems.
4. *Masculinity and femininity*—masculinity reflects an emphasis on self-assertiveness, achievement, and heroism, whereas femininity reflects a concern for quality of life, caring relationships, and sympathy for the unfortunate. Armenians show masculinity in defending themselves in wars with their neighbors and coping with natural disasters. They also show concern for the welfare of their own people.
5. *Short-term versus long-term orientation*—the Armenian people are short-term, not long-term oriented. They focus on the "here-and-now" rather than the future. Armenia has few natural resources, which have been drained by one war or tragedy after another. Lacking the resources to save for tomorrow, Armenians live on a day-to-day basis. Yet they are a hard-working, inventive, and resourceful people (Lang, 1978, p. 291). They are survivors. As Boyajian observes (1972, pp. 306–307):

> "The Armenian people, in freedom or in subjugation, during the course of their history have created and developed a rich culture—a language and alphabet of their own and a literature which has inspired many generations by its grandeur. They have demonstrated great skill, ingenuity and originality in architecture, music, miniature painting, sculpture, and other forms of the arts and sciences...."

Gray sets forth the following framework of accounting characteristics of a country:

1. *Professionalism*—a preference for the exercise of individual professional judgment and professional self-regulation in contrast to adherence to legal requirements and statutes. Armenians have a low sense of professionalism, and favor a high degree of statutory and government control over their lives. In general, Armenia is less lawful than other nations in the region (Jugurian, 1997). The accounting profession in Armenia is virtually non-existent. Bookkeepers work for the government, which has been responsible for formulating all accounting regulations.
2. *Uniformity*—a preference for standardized accounting practices among organizations and companies as opposed to individual flexibility based on different accounting circumstances. Armenians display a high degree of uniformity rather than flexibility. They do not trust their fellow countrymen. Moreover, they cling tenaciously to traditions, e.g. to their chart of accounts, established by Russia.
3. *Conservatism*—a tendency in accounting when alternatives exist to reflect the least favorable impact on net income and stockholders' equity as soon as possible. Conservatism represents a pessimistic, yet prudent approach to accounting measurement. In view of their risk-aversion, Armenians appear to favor conservatism.

4. *Secrecy*—a desire for confidentiality in financial reporting, to avoid divulging information to the public. By nature, Armenians are not "open" people. They would favor secrecy over full disclosure in financial reporting. However, in order to privatize, reporting to external users is necessary. That is a dilemma the Armenians face.

Question #3

To what extent does Armenia's current accounting system reflect its culture? Should that be the case in your judgment? Explain.

Armenia's accounting system reflects its culture. An accounting system should "fit" the country in question, or else its utility can be called into question. Different countries have different accounting systems based on different economies, politics, and social customs. No accounting system can be judged superior to any other without considering how the system serves society in a specific country.

Given the totalitarian history of Armenia and its linkage to the former Soviet Union, it is not surprising that Armenia clings to a Soviet chart of accounts. The government has long dominated and controlled the Armenian economy, and thus has been the "user" of accounting information. Financial statements have been prepared for the stewardship of the government in making product and service allocations and distribution decisions nationwide. There have been no outside, private investors and creditors to speak of before the Iron Curtain collapsed seven years ago.

Private enterprise standards are needed to move privatization forward. Without such standards, relevant and reliable financial statements geared to investors and creditors cannot be prepared for business firms. Various professional and academic accountants from developed countries are needed to provide guidance on how to adopt and implement such accounting standards.

Accounting in Armenia, along with the other CIS, can be viewed as a dual system to accommodate both government-owned and new private enterprises. In order to attract foreign investment, Armenia and the other CIS must use generally accepted business accounting standards.

Question #4

Develop a suitable conceptual framework for financial reporting in Armenia.

Borrowing from the American conceptual framework, the fundamental objective of its counterpart for Armenia should be to furnish relevant and reliable information in the financial reports to help the government, investors, and creditors to make sound financial decisions about the enterprise. The government continues to play a major role in Armenia's business community, and this role is not expected to diminish significantly in the future despite progress toward privatization.

Again, borrowing from the American framework, the central objectives of the Armenian conceptual framework should be: (1) to help users make future cash flow forecasts to the enterprise and to themselves, and (2) to provide information to help users evaluate the stewardship of management in conducting the operations of the enterprise. Information about past, current, and expected events should be given in financial reports, helping users make long-run cash flow forecasts to the enterprise. These forecasts can be used as a basis for investing and lending decisions. Conveying a vast array of material financial information in the financial reports should offer a foundation to the users of financial reports for preparation of their own assessment of the overall managerial stewardship of the enterprise in terms of operating and financing activities. Such an assessment, in turn, should be useful in making long-run cash flow forecasts.

Thus, the foregoing objectives are interlinked. Achieving the stewardship objective is necessary to attain the long-run cash forecasting objective, and achieving the forecasting objective is necessary to fulfill the fundamental objective of conveying information to assist users in making decisions about the enterprise.

Besides the objectives, a conceptual framework for financial reporting in Armenia should require accounting under inflationary conditions and should emphasize relevance, reliability, conservatism, and consistency.

Question #5

Compare Armenia's Generally Accepted Accounting Principles from 1966–1991 with Russia's post 1991 Generally Accepted Accounting Principles.

There are numerous differences and similarities Armenia's Generally Accepted Accounting Principles from 1966–1991 and Russia's post 1991 Generally Accepted Accounting Principles. In addition, the presence of free trade has produced accounting standards addressing previously unimportant issues.

The two sets of Russian GAAP (i.e. 1966–1991 and post 1991) [Enthoven (1992); Enthoven, Sokolov, and Petrachkov (1992); Enthoven and Sokolov (1993)] are similar with respect to revenue recognition, depreciation, pensions and long-term contracts. Revenue recognition under the 1966–1991 Soviet system was cash or accrual-based. Revenue recognition in the Russian post 1991 GAAP remains on a cash or accrual basis. Depreciation in the former Soviet Union and Armenia had been straight-line only with rates set by the state. Depreciation in Russia still follows tax-based rules that generally require the straight-line method. Disclosure of pensions has been required in the Soviet Union and Armenia. Disclosure of pensions is also required in Russia. Long-term contracts are accounted for in the new Russian GAAP using a method similar to completed-contract.

There are many areas in which accounting standards have changed since the liberation of Armenia. Two key examples are the presence of income smoothing devices and the treatment of inventories. There had been income-smoothing devices in the former Soviet Union and Armenia, the goal of which was to stabilize costs for planning. Income smoothing devices under post 1991 Russian accounting standards are limited to loss provisions. Inventories in the former Soviet Union and Armenia have been accounted for at standard costs with wholesale prices set by planners. Inventory is accounted for using the lower of cost or market, and LIFO is allowed.

Finally, a number of issues have only become important in the presence of free trade. These include investments in associated companies and leases. In Russia, investments in associated companies have been recorded at actual costs. Leases are capitalized only if ownership is transferred in Russia currently. Moreover, periodic revaluations are allowed. Neither of these where relevant issues in the USSR.

Question #6

Compare Russia's post 1991 Generally Accepted Accounting Principles with its counterparts in: (a) The U.S.; (b) France; (c) Germany; (d) International Accounting Standards.

There are numerous differences and similarities among the accounting standards in the U.S., France, Germany, Russia (post 1991), and IAS. See the handout. [(Enthoven (1992); Enthoven, Sokolov, and Petrachkov (1992); Enthoven and Sokolov (1993)]

Revenue recognition in the Russia (post 1991) GAAP is still on a cash or perhaps on an accrual basis. As previously stated (in response to Question #5), in the U.S., France, and Germany revenue recognition occurs when it is earned, estimable, and probable. The accrual-based IAS standards recognize revenue when it is earned, and collection is estimable and probable.

Long-term contracts are accounted for in Russia's (post 1991) GAAP [Enthoven (1992); and Enthoven and Sokolov (1993)] using a method similar to completed-contract. As previously stated, the U.S., France, and Germany permit either the completed-contract or percentage-of-completion methods. IAS requires the use of percentage-completion or recoverability, and does not allow the completed-contract method.

Reserves are permitted for unforeseen losses in Russia. In France, an obligatory legal reserve of 10 percent stockholders' capital exists. Germany requires provisions for all liabilities and losses arising during the year.

Inventory in Russia is accounted for using the lower of cost or market, and LIFO is allowed. This conforms with the French, Germany, U.S., and IAS standards in general.

In Russia, investments in associated companies are recorded at actual costs. In France, the U.S., and the IAS, the equity method is used if the investor has significant influence over the investee. Germany requires the use of the equity method if the investor controls 20 percent of the voting rights of the investee.

Russia allows periodic revaluation of assets, but only when declared by the Ministry of Finance. France allows periodic revaluation of long-term assets; Germany does not. The U.S. essentially uses historical cost, but most marketable securities are reflected at fair market value; long-lived assets are revalued downward if there is a permanent impairment in their value. IAS recommends disclosure of revaluations.

Depreciation in Russia follows tax-based rules that generally require the straight-line method. In France and Germany, depreciation is also tax-based, and accelerated depreciation is common; straight-line is, however, allowed. IAS requires disclosure of the method used and consistency required.

Leases are capitalized only if ownership is transferred in Russia currently. In France, leases are generally not capitalized. In Germany leases are only capitalized if several criteria are met. For the U.S. and IAS, leases that are in substance installment purchases of property are capitalized as an asset and liability.

Disclosure of pensions is required in Russia. In France, pension costs represent a tax deduction, which are often expensed on a pay-as-you-go basis. In Germany, pension expenses are accrued. In the U.S., a periodic pension expense based on the projected benefit obligation (PBO) is accrued. IAS requires the use of a periodic expense based on accumulated benefits obligation or PBO.

Question #7

Explain the pros and cons of Armenia adopting IAS, U.K., or U.S. standards.

These standards have already been formulated, and are well-recognized internationally. So Armenia would not have to "reinvent the wheel" in adopting these standards. This country could avoid the cost of developing its own standards. Furthermore, Armenia could harmonize its accounting with the other countries using IAS, U.K., or U.S. standards. Those standards could be used in the preparation of certified financial reports with the aim of attracting and retaining foreign investment and loan funds. That these standards are so widely accepted is a factor promoting foreign transactions.

According to Schneidman (1997, pp. 60–61), Russia is gradually moving towards adoption of IAS standards with a view to the following aims:

> "...[I]t will facilitate Russian access to international capital markets...
> ...[I]t will ensure the fairness and meaningfulness of information prepared by Russian companies for international investors...
> ...[T]he introduction of IASs...will save time and effort that might otherwise have been spent developing the national accounting standards from scratch.
> ...[I]t will boost the importance of accounting as a profession, since the switch to IASs will require the introduction of the professional code and objectives.
> ...[I]t will segregate financial accounting from tax accounting...."

The key drawback to adoption of those standards is whether they would be compatible with Armenian culture. Accounting systems have to fit the country's way of life.

Question #8

Explain the pros and cons of Armenia adopting accounting standards from other countries on a selective basis.

Eclectic standard setting is a process whereby standard setters choose existing individual standards from other countries that they believe are most appropriate for their own country. If such a system were implemented, Armenia and perhaps other CIS as well could select among alternative accounting standards for a wide array of topics and issues. A form of eclecticism in standard setting would be adopting the majority of one set of standards (IAS, for example) while borrowing the remaining standards from other countries.

Eclectic standard setting can be beneficial to the participating country. Rather than adopting a single set of standards (IAS, for example), eclectic standard setting allows the participating country to choose its own mix of accounting standards. Such a mix of standards would most accurately reflect the country's economic, political, and social environment, and, therefore, should be more widely accepted. In Armenia, eclectic standard setting could be used in conjunction with the chart of accounts, easing the anxiety caused by transition to the new accounting system. This process of standard setting also can save time and resources. Although the economic, political, and social aspects of the country still must be thoroughly understood, standards already exist, and do not have to be created from scratch.

Additionally, because standards are adopted from outside sources, the lack of trust of fellow citizens in formulating new standards would be reduced. Finally, the greater degree that a CIS accounting system is based on widely understood and commonly encountered accounting standards, the greater the acceptance of the standards is likely to be. If the standards, and therefore the accounting system, are understood and familiar, they should be attractive to foreign investment, which is desperately needed in Armenia and other CIS. Such investment should stimulate the economy, facilitating reconstruction of earthquake-damaged buildings and reducing the 70 percent unemployment rate. Clearly the citizens would be the principal beneficiaries of such investment.

Though this standard setting process has definite advantages, there are serious flaws inherent in the process. To be accepted, accounting standards must fit the social, economic, and political climate of the countries. Would standard setters hastily select standards without giving them sufficient consideration and appropriate examination? Would they take the time to study and understand the specific circumstances in which the standard was developed and determine that the standard suits the environment in the country being considered? What would happen if an acceptable accounting standard does not exist? Would a standard be chosen that does not truly reflect the underlying circumstances? If these issues are not prudently addressed, acceptance of the system could be undermined. Another problem exists when selected accounting standards are based on diverse conceptual frameworks.

Selective adoption of accounting standards could produce a set of accounting standards with conflicting conceptual frameworks. Such a system might lead to inconsistent reporting of similar transactions, thereby compromising the viability and acceptance of the system. Additionally, the continuous process of standard setting would be significantly complicated. The conceptual framework on which new standards should be based would be unclear to both standard setters and users. Setting standards inconsistent with users' expectations could undermine the viability of this new system.

NOTE

1. Companies in Armenia will have to develop a management accounting framework to measure their performance. To attract investors and creditors, firms have to be productive and efficient, or show promise towards that end. Under a totalitarian regime, there was not much concern about efficiency. That is not the case, however, with privatizing enterprises seeking to raise funds from external sources.

Table A1. Selected Financial Accounting Standards in the USSR and Other Coutnries

Issue	*USSR (1966–1991)*	*France*	*Germany*	*U.S.*	*I.A.S.*
Accounting Profession	Very small. 80% female.	Relatively small.	Relatively small.	Large and powerful.	Large and international.
Annual Report and Financial Statements	Interrelated accounting forms. Profit and loss account. Sales volume profit, return on assets.	Consolidated balance sheet and income statement, Parent company statements. Balance sheet - two sided format. Funds statement is required. Annual Report by directors. Board's proposals for appropriation of profit are stated separately (Deloitte 46-57).	Consolidated balance sheet and income statement. Balance sheet - two sided format. Many provide funds statement. Annual Report by directors. Board's proposals for appropriation of profit are stated separately.	Consolidated balance sheet, income statement, cash flows. No parent company balance sheet and income statement. Appropriations on balance sheet - retained earnings.	Consolidated balance sheet and income statement. Fund Flow required.
Business combinations	Not an issue.	Purchase method (AICPA 32).	Purchase method mostly (Cooper s G4).	Purchase method mostly. Pooling may be required (SFAS 38, 79, 84).	Purchase method used for acquisitions. Pooling of interests method for uniting of interests (IAS 22).
Deferred Taxes	Not an issue.	Deferred in consolidated accounts. Deferred or liability method (AICPA 41)	Few differences between finial and tax reporting. Liability method used (Coopers G17).	Liability method - comprehensive (SFAS 96, 109).	Deferral and liability methods (IAS 12).
Depreciation	Straight line. Rates set by state.	Tax based. Accelerated and straight line common. (AICPA 37).	Straight line, sum-of-the- years'-digits, declining balance and units-of-production. (Coopers G9)	Straight line common. Accelerated depreciation widely used (APB 1).	Disclose method used. Consistency required (IAS 4),
Disclosure	Aimed at state users only.	Traditionally little but improving.	Traditionally little but is improving. Quite secretive.	Full disclosure and growing. Transparent.	Extensive disclosure. Aimed at international investors. (IAS 1)
Effect of Changing Prices	Not an issue.	Periodic revaluation of long term assets (AICPA 31).	No revaluation permitted. (Coopers G7)	Not required (SFAS 33, 82).	Disclosure recommended (IAS 15 and 29).
Foreign currency exchange gains/losses.	Not an issue.	Generally to income statement in consolidated financial statements (Coopers F38).	Generally current assets and liabilities recorded at rates present when they arose or at year end whichever less favorable. Loss are to income statement (Deloitte 72).	To income statement if speculation; to asset if hedge on transaction (SFAS 52).	To income statement (IAS 21).

(continued)

Goodwill	Not an issue.	Goodwill on basis of cost in excess of fair market value or book value with subsidiaries. Generally amortized over 5 to 25 years (AICPA 38, Coopers F35)	Only purchased goodwill recognized. Amortized over economic life or four years; may be charged against reserve on the face of the balance sheet (Coopers G4).	Calculated on fair excess of cost over market value. Capitalized and amortized over useful life (40 years maximum) (APB 17)	Goodwill capitalized on basis of fair market value; amount amortized over useful life, maximum of 20 years. (IAS 5)
Historical financing source	State owned	Banks, government, family interests, closely held.	Banks, government, family interests, closely held.	Securities markets, Creditors and Bankers.	Not applicable.
Income Smoothing devices	Many. Goal: stable costs for planning.	Provisions for losses. Change in depreciation methods.	Loss provisions, inflated to lower taxes.	Biased estimates of contingent liabilities, e.g., pensions OPEBS.	Not applicable.
Influences on development	Unification is emphasized, reflected by a single plan of accounts and set of forms to be filed with the state. Three types of accounts: statistics (indexes), operative (units), and monetary (financial)..	Based on Company law. Emphasis on uniformity. Influenced by Germany. Code includes Chart of Accounts. Tax deductions must also be deducted in Financial Statement but the excess of tax depreciation over economic depreciation is disclosed.	Highly codified and prescriptive - based on Law, tradition of uniformity. Financial Statement accounts form the basis for tax accounts-any deduction for taxes must also be deducted in Financial Statement. Uses chart of accounts.	Rules set by FASB, SEC oversees FASB. Emphasis on comparability. Due process is critical for GAAP authority. Tax and financial account are separate (LIFO exception).	Comparability is emphasized. One aim is to serve those countries who are establishing standards for the first time. Membership is limited by existence of a professional body in many countries and is currently more then 75 countries.
Interest capitalization	Not an issue.	Allowed (AICPA 38).	Allowed (Coopers G16).	Allowed (SFAS 34).	Allowed (IAS 23).
Inventories	Standard costs. Wholesale prices set by planners.	Lower of cost or market. LIFO only in consolidated financial statement (AICPA 36).	Inventory - lower of cost of market. LIFO is allowed (Coopers G11-G12).	Inventory - lower of cost or market. LIFO if allowed, (Tax conform). (ARB 43).	Inventory - lower of cost of market. LIFO permitted with full disclosure (IAS 2).
Investments in associated companies	Not an issue.	Equity method - significant influence (AICPA 32).	Equity method if 20% voting rights (Coopers G4).	Equity method for significant influence (APB 18).	Equity method if significant influence (IAS 28).
Leases	Not an issue.	Generally not capitalized. Capitalization requires disclosure (AICPA 39).	Capitalized if criteria met. Capitalization requires disclosure (Coopers G10).	Capital leases as asset and liability (SFA S 13).	Capital leases as asset and liability (IAS 17).
Long-term contracts	Completed contract method.	Completed contract and percent complete (AICPA 37).	Completed contract method most common (Coopers G15)	Completed contract and percent complete (ARB 45).	Percent complete / recoverable. No completed contract (IAS 11).

(continued)

Table A1. (Continued)

Measurement	Historical cost based, land is reported at zero. No revaluations are permitted. Extremely conservative system.	Very conservative. Historical cost, but discretionary revalue since 1984.	Very, very conservative. Historical cost (write downs only) (Coopers G7, G9).	Conservative. Historical cost (write downs only) Certain securities at fair market value (SFAS 115).	Historical cost revalue. With full disclosure. (Framework).
Most important users	States agencies, higher organizations in industry. Gosbank and Srtoibank.	Creditors and tax - shareholder status improving.	Creditors and tax - shareholder status improving.	Securities markets. Bankers.	International investors.
Organizationa l Costs	Capitalized.	Capitalized and amortized useful life (AICPA 38).	Capitalized and amortized over five years.	Capitalized and amortized over forty years. (APB 17).	N/A
Pensions	Disclosed.	Yearly contributions expensed when paid, future costs may be recognized (AICPA 40).	Accruals understated - poor actuary laws (Coopers G18).	Periodic expense, PBO based (SFAS 87).	Periodic expense based on ABO or PBO (IAS 19).
Prior Period Adjustment	Not an issue.	Included as a non-recurring income or expense in year discovered (Coopers F44)	Errors discovered subsequent to audit report are corrected in following year. Only changes arising from reclassification of items necessary to ensure consistency qualify for retrospective adjustment (Coopers G7).	To beginning Retained Earnings. (APB 20)	To Income Statement or beginning Retained Earnings (IAS 10).
Provisions	Used to accrue liabilities if not yet paid.	Provisions for losses used to smooth income.	Provisions for losses used to smooth income: law requires retentions on profits (Coopers G13-G14)	Provisions for losses made if loss is probable and estimable (SFAS 5).	Provisions for losses if probable and estimable (IAS 10).
Related party transactions	Disclosed.	Disclosed (AICPA 34).	Disclosed (Coopers G8).	Disclosed (SFAS 57).	Disclosed (IAS 24).
Research & Development	Capitalized and amortized.	Generally expensed but may be capitalized and amortized over useful life if two criteria are met (AICPA 39).	Research and Development is expensed (Coopers G16).	Research and Development is expensed (SFAS 2, 68).	Generally expensed but are permitted to be capitalized and amortized over useful life if five criteria are satisfied (IAS 9).
Reserves	Not applicable.	Inflation and legal reserve (AICPA 39).	Provisions required for all liabilities and losses arising during year (Coopers G14).	Required legal capital is a function of the law of the state of incorporation.	Not applicable.

(continued)

Table A1. (Continued)

Revenue Recognition	Cash or accrual. Changes are noted. Investments are re-valued at year end.	Accrual based (AICPA 31).	Accrual based (Coopers G15)	When earned, estimable and probable (SFAC 6)	Accrual based. Recorded when earned, and Collection estimable and probable (IAS 18).
Segmental Reporting	Not applicable.	Required to disclose in notes net sales by industry and geographical market if dissimilar and sales, net assets or income of segment is larger than 10% (Coopers F41).	Required to disclose in notes net sales by industry and geographical market (Coopers G8)	Firms financial reports are required to reflect one basis of segmentation -e.g. products, services geography pr customers. Segment must have sales, net assets or income of segment is larger than 10%	Required to disclose in notes net sales by industry and geographical market if dissimilar and sales, net assets, employment or income of segment is greater than 10% (IAS 14).
Separate Bank Accounting	Separate Chart of Accounts.	No.	N/A.	Extensive.	Extensive.
Status of professional pronouncements	None.	Relatively low.	Relatively low.	Supported by SEC- Very high.	No legal authority unless home country requires.
Stock Market	None.	Relatively small.	Relatively small.	Relatively large.	N/A
Trend in financing	State Institution, enterprise activity.	Stock market becoming more important.	Stock market becoming more important.	Stock market still.	Stock exchanges.
Translation	Not yet an issue.	Varies, but gains and losses to income statement. Current rate method, generally (AICPA 42-43).	Practice varies, but usually gains and loss to capital accounts or income statement; consistent treatment required (Coopers G6).	Current (closing) rate method generally, but temporal if U.S. currency is functional currency (SFAS 52).	Current and temporal. Gains or losses to income statement or equity depending on type (IAS 21).

Notes: *Citations:*

APB—Accounting Principles Board Options.
ARB—Accounting Research Bulletins issued by the AICPA.
AICPA—the AICPA's Professional Accounting in Foreign Countries Series
Coopers—the Coopers and Lybrand International Accounting Summaries (1993)
Deloitte—the Deloitte Touche Tohmatsu International Tax and Business Guide (1992)
IAS—International Accounting Standards issued by the International Accounting Standards Committee.
SFAS—Statement of Financial Accounting issued by the Financial Accounting Standards Board.

Table A2. Selected Financial Accounting Standards in the USSR and Other Coutnries

Issue	*Russia (post 1991)*	*France*	*Germany*	*U.S.*	*I.A.S.*
Accounting Profession	Relatively small.	Relatively small.	Relatively small.	Large and powerful.	Large and international.
Annual Report and Financial Statements	Financial Statements are similar to those used in western accounting. Uniform and overseen by the minister of finance. Three financial statements include balance sheet, statement of financial results and uses, and supplement to the balance sheet. Notes must be adequate. No funds statement required.	Consolidated balance sheet and income statement, Parent company statements. Balance sheet - two sided format. Funds statement is required. Annual Report by directors. Board's proposals for appropriation of profit are stated separately (Deloitte 46-57).	Consolidated balance sheet and income statement. Balance sheet - two sided format. Many provide funds statement. Annual Report by directors. Board's proposals for appropriation of profit are stated separately.	Consolidated balance sheet, income statement, cash flows. No parent company balance sheet and income statement. Appropriations on balance sheet - retained earnings.	Consolidated balance sheet and income statement. Fund Flow required.
Business combinations	Not yet an issue.	Purchase method (AICPA 32).	Purchase method mostly (Cooper s G4).	Purchase method mostly. Pooling may be required (SFAS 38, 79, 84).	Purchase method used for acquisitions. Pooling of interests method for uniting of interests (IAS 22).
Deferred Taxes	Not an issue.	Deferred in consolidated accounts. Deferred or liability method (AICPA 41)	Few differences between financial and tax reporting. Liability method used (Coopers G17).	Liability method - comprehensive (SFAS 96, 109).	Deferral and liability methods (IAS 12).
Depreciation	Tax-based rules: straight line. Consistency in depreciation.	Tax based. Accelerated and straight line common.(AICPA 37).	Straight line, sum-of-the-years'-digits, declining balance and units-of-production. (Coopers G9)	Straight line common. Accelerated depreciation widely used (APB 1).	Disclose method used. Consistency required (IAS 4),
Disclosure	Explanatory notes required.	Traditionally little but improving.	Traditionally little but is improving. Quite secretive.	Full disclosure and growing. Transparent.	Extensive disclosure. Aimed at international investors. (IAS 1)
Effect of Changing Prices	Periodic revaluation. Declared by the Ministry of Finance.	Periodic revaluation of long term assets (AICPA 31).	No revaluation permitted. (Coopers G7)	Not required (SFAS 33, 82).	Disclosure recommended (IAS 15 and 29).
Foreign currency exchange gains/losses.	Disclosed in Statement of Financial Results.	Generally to income statement in consolidated financial statements (Coopers F38).	Generally current assets and liabilities recorded at rates present when they arose or at year end whichever less favorable. Losses are to income statement (Deloitte 72).	To income statement if speculation; to asset if hedge on transaction (SFAS 52).	To income statement IAS 21).

(continued)

Table A2. (Continued)

Goodwill	Not yet an issue.	Goodwill on basis of cost in excess of fair market value or book value with subsidiaries. Generally amortized over 5 to 25 years (AICPA 38, Coopers F35)	Only purchased goodwill recognized. Amortized over economic life or four years; may be charged against reserve on the face of the balance sheet (Coopers G4).	Calculated on fair excess of cost over market value. Capitalized and amortized over useful life (40 years maximum) (APB 17)	Goodwill capitalized on basis of fair market value; amount amortized over useful life, maximum of 20 years. (IAS 5)
Historical financing source	State	Banks, government, family interests, closely held.	Banks, government, family interests, closely held.	Securities markets, Creditors and Bankers.	Not applicable.
Income Smoothing devices	Loss provisions.	Provisions for losses. Change in depreciation methods.	Loss provisions, inflated to lower taxes.	Biased estimates of contingent liabilities, e.g., pensions OPEBS.	Not applicable.
Influences on development	Based on regulations of Minister of Finance. Emphasis on uniformity. Influenced by U.N., World Bank, and Big Six. Similar to IAS. Chart of Accounts (separate one for banks). Financial Statement are subordinate to in tax law.	Based on law. Emphasis on uniformity. Influenced by Germany. Code includes Chart of Accounts. Tax deductions must also be deducted in Financial Statement but the excess of tax depreciation over economic depreciation is disclosed.	Highly codified and prescriptive - based on Company Law, tradition of uniformity. Financial Statement accounts form the basis for tax accounts-any deduction for taxes must also be deducted in Financial Statement. Uses chart of accounts.	Rules set by FASB, SEC oversees FASB. Emphasis on comparability. Due process is critical for GAAP authority. Tax and financial account are separate (LIFO exception).	Comparability is emphasized. One aim is to serve those countries who are establishing standards for the first time. Membership is limited by existence of a professional body in many countries and is currently more then 75 countries.
Interest capitalization	Not yet an issue	Allowed (AICPA 38).	Allowed (Coopers G16).	Allowed (SFAS 34).	Allowed (IAS 23).
Inventories	Inventory - Lower of cost or market. LIFO is allowed.	Lower of cost or market. LIFO only in consolidated financial statement (AICPA 36).	Inventory - lower of cost of market. LIFO is allowed (Coopers G11-G12).	Inventory - lower of cost/ market. LIFO if allowed, Tax conformity required (ARB 43).	Inventory - lower of cost of market. LIFO permitted with full disclosure (IAS 2).
Investments in associated companies	Actual costs.	Equity method - significant influence (AICPA 32).	Equity method if 20% voting rights (Coopers G4).	Equity method for significant influence (APB 18).	Equity method if significant influence (IAS 28).
Leases	Capitalized if ownership transferred.	Generally not capitalized. Capitalization requires disclosure (AICPA 39).	Capitalized if criteria met. Capitalization requires disclosure (Coopers G10).	Capital leases as asset and liability(SFA S 13).	Capital leases as asset and liability (IAS 17).

(continued)

Table A2. (Continued)

Long-term contracts	Similar to completed contract	Completed contract and percent complete (AICPA 37).	Completed contract method most common (Coopers G15)	Completed contract and percent complete (ARB 45).	Percent complete / recoverable. No completed contract (IAS 11).
Measurement	Conservative - Historical cost required. Assets = financial sources (Balance Sheet). Donated items not on balance sheet. Assets at net value.	Very conservative. Historical cost, but discretionary revalue since 1984.	Very, very conservative. Historical cost (write downs only) (Coopers G7, G9).	Conservative. Historical cost (write downs only) Certain securities at fair market value (SFAS 115).	Historical cost revalue. With full disclosure. (Framework)
Most important users	Owners, industrial ministry and tax inspectors.	Creditors and tax - shareholder status improving.	Creditors and tax - shareholder status improving.	Securities markets. Bankers.	International investors.
Organizational Costs	Capitalized and amortized over five years.	Capitalized and amortized useful life (AICPA 38).	Capitalized and amortized over five years.	Capitalized and amortized over forty years. (APB 17).	
Pensions	Disclosed.	Yearly contributions expensed when paid, future costs may be recognized (AICPA 40).	Accruals understated - poor actuary laws (Coopers G18).	Periodic expense, PBO based (SFAS 87).	Periodic expense based on ABO or PBO (IAS 19).
Prior Period Adjustment	Not yet an issue.	Included as a non-recurring income or expense in year discovered (Coopers F44)	Errors discovered subsequent to audit report are corrected in following year. Only changes arising from reclassification of items necessary to ensure consistency qualify for retrospective adjustment (Coopers G7).	To beginning Retained Earnings. APB 20)	To Income Statement or beginning Retained Earnings (IAS 10).
Provisions	Provisions for losses used to smooth income.	Provisions for losses used to smooth income.	Provisions for losses used to smooth income: law requires retentions on profits (Coopers G13-G14)	Provisions for losses made if loss is probable and estimable (SFAS 5).	Provisions for losses if probable and estimable (IAS 10).
Related party transactions	Disclosed.	Disclosed (AICPA 34).	Disclosed (Coopers G8).	Disclosed required (SFAS 57).	Disclosed (IAS 24).
Research & Development	N.A.	Generally expensed but may be capitalized and amortized over useful life if two criteria are met (AICPA 39).	Research and Development is expensed (Coopers G16).	Research and Development s expensed (SFAS 2, 68).	Generally expensed but are permitted to be capitalized and amortized over useful life if five criteria are satisfied (IAS 9).

(continued)

Table A2. (Continued)

Reserves	For unforeseen losses.	Inflation and legal reserve (AICPA 39).	Provisions required for all liabilities and losses arising during year (Coopers G14).	Required legal capital is a function of the law of the state of incorporation.	Not applicable.
Revenue Recognition	Cash or accrual. Changes are noted. Investments are re-valued at year end.	Accrual based (AICPA 31).	Accrual based (Coopers G15)	When earned, estimable and probable (SFAC 6)	Accrual based. Recorded when earned, and Collection estimable and probable (IAS 18).
Segmental Reporting	Not an issue.	Required to disclose in notes net sales by industry and geographical market if dissimilar and sales, net assets or income of segment is larger than 10% (Coopers F41).	Required to disclose in notes net sales by industry and geographical market (Coopers G8)	Firms financial reports are required to reflect one basis of segmentation -e.g. products, services, geography customers. Segment must have sales, net assets or income of segment is larger than 10%.	Required to disclose in notes net sales by industry and geographical market if dissimilar and sales, net assets, employment or income of segment is g reater than 10% (IAS 14).
Separate Bank Accounting	Separate Chart of Accounts.	No.	N/A.	Extensive.	Extensive.
Status of professional pronouncements	Not applicable.	Relatively low.	Relatively low.	Supported by SEC Very high.	No legal authority unless home country requires.
Stock Market	Several but small.	Relatively small.	Relatively small.	Relatively large.	N/A
Trend in financing	Stock market becoming more important.	Stock market becoming more important.	Stock market becoming more important.	Stock market still.	Stock exchanges.
Translation	Not an issue.	Varies, but gains and losses to income statement. Current rate method, generally (AICPA 42-43).	Practice varies, but usually gains and loss to capital accounts or income statement; consistent treatment required (Coopers G6).	Current (closing) rate method generally, but tempora if U.S. currency is functional currency (SFAS 52).	Current and temporal. Gains or losses to income statement or equity depending on type (IAS 21).

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Book Review Section

The book review section is interested in works published in any language, as long as they are comparative or international in character. The author or publisher of such works should furnish either book review editor with two (2) copies of the work, including information about its price and the address where readers may write for copies. Reviews will be assigned by the book review editors. No unsolicited reviews will be accepted. Suggestions of works that might be reviewed are welcomed.

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The International
Journal of
Accounting

Book Review

The French Plan Comptable: Explanation and Translation, *by Peter Standish, Expert Comptable Média Publisher, Paris, France,* 1997, 563 p., FF 700 (approx. U.S.$130).

In essence, the French accounting system differs from its counterparts in the English-speaking world mainly by the role that the state plays in accounting regulation. Although representatives of the private sector, and particularly accounting professionals, are closely associated with the creation of rules, accounting regulation is in fact the prerogative of the public authorities. Most of accounting rules are included in the *Plan Comptable Général* (PCG), which forms the basis of the French accounting system. The objective of Standish's book is to make English-speaking readers more familiar with this system by providing a comprehensive analysis and interpretation of this national accounting code.

In fact, the title of the book is at one and the same time too modest and misleading. The book is not restricted to the *Plan Comptable*. It embraces all aspects of the French accounting system, covering issues such as company law, taxation, and the accounting profession. It is organized in two parts. The first is devoted to a detailed analysis of the Plan and related topics, while the second part is a translation into English of the Plan and of relevant sections of French commercial and company law. At the end of the book, the reader will also find a glossary of technical terms found in the Plan or in other regulations covered within it.

Chapter 1 provides an overview of the PCG, explaining its objectives and structure. It examines and explains the design of the PCG's chart of accounts and its basic (explicit as well as implicit) accounting objectives and principles. A distinction is made between requirements applicable to individual enterprises and to consolidated financial statements. The chapter summarizes and comments on detailed rules and guidelines for the maintenance of accounts, accounting within specified operating contexts or for particular transactions, and presentation of financial statements. Throughout this chapter, the author highlights differences with the approach to accounting in use in English-speaking countries. He notes in particular that, contrary to the U.S. view, the utility of accounting information is not addressed in terms of user needs, but rather in technical terms, as if promoters of the Plan had preferred to avoid venturing into the arena of contested theories regarding the utility of information and the relative priorities of different users. Similarly, he points out that, by contrast to the view that the primary objective of financial accounting is the matching of components of income and expenses by financial years, the PCG emphasizes the proper recognition of financial items and the determination of their values for inclusion in the balance sheet. The author also insists on the importance of prudence, which, in France as in other countries of continental Europe, is the most influential factor in the measurement of assets and liabilities.

Chapter 2 is devoted to an historical analysis of the development of the *Plan Comptable*. The first national accounting code was promulgated in 1942, based on the model already in use in Germany. It was modified several times in subsequent years, more precisely in 1947, 1957 and 1982. The last revision was motivated by the need for harmonization with the Fourth and Seventh EC Directives. Throughout this period, the author notes a great continuity in terms of maintenance of central objectives for the code and institutional arrangements for its development and application. He also notes that the existence of the PCG now seems relatively uncontroversial, as if all economic interests had finally accommodated themselves to it or learned to use it to their advantage. Although very valuable for people interested in accounting history, this part of the book will be less useful for most readers.

Chapter 3 addresses the position of the *Plan Comptable* in French law. It deals with the relationship between the PCG, taxation and company law. The legal framework for the preparation and presentation of financial statements is constituted on the one hand by the Commercial Code, and on the other hand by the PCG. The former provides basic general principles, the latter more detailed and technical rules. The author rightly emphasizes the fact that the PCG is not expressed as a set of regulations, each of them dealing with a specific issue, but rather as an accounting manual. As he notes, that makes it difficult to distinguish between elements that must be considered as prescriptive rules and those that have only the status of recommendations or illustrative examples. The chapter then deals with the relationship between the PCG and tax law. After he has pointed out that accounting law is applicable for tax purposes, except in specific instances of contrary requirements in the tax law, the author provides a detailed review of the adjustments to be made to accounting profit or loss in arriving at taxable income. Although unusual in an Anglo-American context, such an extensive description of fiscal rules is necessary in as much as most accounting decisions of French firms are at least partially driven by fiscal considerations.

Chapter 4 deals with the authority and mission of the *Conseil National de la Comptabilité* (CNC), the consultative government agency responsible for the development and maintenance of the PCG. Its membership structure is analyzed in terms of the categories of members and interest groups represented, from 1947 to 1996. The author notes that a distinctive aspect of the CNC structure, compared with standard setting bodies in the English-speaking world, is its representation of a range of public sector agencies. Although the proportion of public sector membership has declined continuously since 1947, he argues that there is still in France a wide consensus on the legitimacy of the state as the determinant and arbiter of accounting standards. The accounting profession has no direct control over accounting standards; it exercises its influence through CNC membership. In the author's opinion, the CNC presents a structure in which the interest that members of the profession may have in accounting doctrine is matched against the interests of the state. Because of its publication date, the book could only make passing reference to the *Comité de la Réglementation Comptable* (CRC) whose creation in April 1998 was the final step of the reform of the standard-setting process undertaken in 1996. This new body, which is composed of civil servants and CNC members, has the power to formulate accounting rules in the light of recommendations or opinions from the CNC. The future will tell us whether the

CRC will veto some CNC decisions or simply act as a faithful endorser of this institution.

Chapter 5 examines ways in which the *Plan Comptable* has been applied in the performance of certain specified roles of public oversight of financial activity and reporting. The author highlights the influence of the National Institute of Statistics (INSEE) in the development of the PCG, noting that the prospect of developing a national accounting code to support development of national economic statistics was one of the earliest aims of the PCG. This issue could have been more extensively addressed, given the clear relationship that exists between some elements of the PCG (production, value-added, etc.) and the corresponding concepts of national accounting. There is then an examination of the role that the National Securities Commission (COB) and the accounting profession play in monitoring compliance with the requirements of the PCG and company law. The chapter ends with an overview of adaptations of the PCG to specific enterprises or activities. A list of these adaptations is provided, with their main characteristics.

Chapter 6 provides an overall interpretation and assessment of the *Plan Comptable* in relation to its context. The PCG is viewed as a national accounting language which contributes to increasing the effectiveness of communication between interested parties, but which at the same time is a source of rigidity. Finally, the author addresses the issue of the system's capacity to adapt to changing circumstances, in the light of the 1996 reform which has substantially modified the CNC structure and created the CRC.

With this book, Peter Standish proves he is certainly one of the best English-speaking specialists in French accounting. Explaining the *Plan Comptable* to people not familiar with the French accounting tradition and the economic and political characteristics of France is not an easy task. The author has fulfilled his aim probably beyond his expectations. Readers should nevertheless be aware that this book relates much more to individual (parent-only) accounts than to consolidated financial statements. Rules applicable to group accounts allow considerable flexibility which enables French firms to comply with practically any set of standards they want. More than 20 percent of listed companies already prepare their consolidated statements in conformity with the International Accounting Standards (IASs), and several large firms apply U.S. GAAP. This evolution was recently recognized with the adoption of a new law that allows listed companies to use IASs in place of the PCG for the preparation of their consolidated financial statements. By focusing on rules applicable to individual accounts, the book probably overestimates the distinctive features of the French accounting system. Apart from this limitation, Standish's book will be of high value for people confronted with the financial statements of French firms and for students taking advanced courses in international accounting. Although this book is not primarily directed at them, French readers will probably enjoy this description of their own accounting system from an Anglo-Saxon point of view.

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International Accounting Standards 1997: Deutsche Fassung, *edited by the International Accounting Standards Committee, Schäffer Poeschel Verlag, Stuttgart,* 707 pages, DM 98 (approx. U.S.$55).

Rechnungslegung nach International Accounting Standards, *by Jörg Baetge, Dietrich Dörner, Heinz Kleekämper and Peter Wollmert, Schäffer-Poeschel Verlag, Stuttgart,* 1623 + xxiv pages, DM 348 (approx. U.S.$195).

The background to both these books is the extraordinary revolution in financial reporting that has occurred in Germany in recent years. It started in 1993 with the listing on the New York Stock Exchange of the shares of Daimler Benz AG, and recently, in April 1998, it reached a crescendo with the enactment of two new laws. The "Kapitalaufnahmeerleichterungsgesetz" (Law to Ease the Raising of Capital) permits listed companies to draw up their consolidated accounts in conformity with "internationally recognized accounting principles." The "Gesetz zur Kontrolle und Transparenz im Unternehmensbereich" (Control and Transparency Law) authorizes the Ministry of Justice to recognize a private body that is to be given the task of developing recommendations on principles for consolidated financial statements. The intention is that the private body's recommendations as to "internationally recognized accounting principles" will be officially endorsed by the Ministry of Justice, so as to remove any legal uncertainty as to the identity of the principles referred to in the first law.

The International Accounting Standards Committee is not mentioned anywhere in the new laws, but it is generally accepted in Germany that the new committee will recommend the adoption of the IASC's standards. The only possible competitor is U.S. GAAP, and it would seem that the German government much prefers the IASC's standards to U.S. GAAP for the very same reason that the European Union in 1995 decided to support the IASC: it is possible for Germany, through its participation in the workings of the IASC to influence the content of that body's standards, whereas U.S. GAAP is determined by bodies (the Securities and Exchange Commission and the Financial Accounting Standards Board) over which it has no influence.

Hence, German accountants and auditors have suddenly become very interested in the IASC's standards, and the two books reviewed here are likely to find a ready market in Germany. However the great majority of the readers of *The International Journal of Accounting* are not located in Germany, and, moreover, most of them do not read German. What interest can these books have for them? This is the question that this reviewer seeks to answer.

The first book, *International Accounting Standards 1997: Deutsche Fassung*, is simply a translation into German of the IASC's 1997 bound volume of standards. It includes, in addition to the text of the standards issued up to December 31, 1997, the IASC's Framework, the Preface, and the sections in the bound volume on the IASC's constitution and history. It is an official translation authorized by the IASC; in fact, it is the very first such official translation. However, it is clearly stated that, in the event of a conflict between the German translation and the English version, the English original prevails. This is a clear indication of the privileged position accorded to the English language in the workings of the IASC, which in many ways is regrettable, as it places non-English speakers at a considerable disadvantage, both in the negotiations leading to the issue of an International

Accounting Standard (IAS) and in understanding an IAS once it has been issued. The European Union has a quite different rule: all the different language versions of its directives have equal validity. This clearly is more democratic and places no one at a disadvantage. However, the IASC's practice is more realistic and leads to greater legal certainty, which is probably more important than seeking to place everyone on an equal footing.

The principal interest in this book to the non-German is simply that it exists. Its publication demonstrates a commendable willingness on the part of the IASC to make its standards more accessible to the non-English speakers who make up over 90 percent of the world's population.

The second book is a commentary in German on the IASs. Its authors are a professor of accounting at the University of Münster and three members of the German accounting firm of Schitag-Deutsche Allgemeine Treuhand AG, which is associated with Ernst & Young. It is a massive work of 1,623 large-format pages. For comparison, David Cairns's *Guide to Applying International Accounting Standards*, with only 909 far smaller pages, has less than half the number of words. A better comparison is with Ernst & Young's *UK GAAP*, which is very much the same size as the German book.

The book is divided into three unequal parts: A, B and C, as follows.

Part A: Basics (109 pages)

This part takes up less than one-tenth of the book, but nevertheless it is over 100 pages long, which enables the authors to deal with a number of general topics in a commendably rigorous fashion. Chapter I on the history and structure of the IASC contains nothing new for the non-German reader. However, the next two chapters (II and III), which deal with the basic principles behind the IASs, do bring out certain important differences between Germany and the IASC in the approach to financial reporting. The authors note that two important accounting principles that are laid down in the German Commercial Code and in the EU's Fourth Directive are virtually ignored by the IASC: "Bilanzidentität" (balance sheet continuity—that the opening balance sheet should be identical with the closing balance sheet of the previous year—article 31.1.f of the Fourth Directive) and "Einzelbewertung" (individual valuation of assets and liabilities—article 31.1.e of the Fourth Directive). The first principle is clearly breached in the provision of IAS 8 that changes in the values of assets and liabilities arising from fundamental errors and changes in accounting policy that relate to prior periods should be effected by adjusting the opening balance of retained earnings. In fact, it is doubtful whether the Anglo-Americans acknowledge the existence of a principle of balance sheet continuity; this is regrettable, as this principle imposes a discipline on preparers which makes the manipulation of reported earnings much more difficult. With respect to individual valuation, the IASC follows no consistent line; sometimes it respects the principle, as in IAS 11 which requires that the profit on construction contracts be calculated on a contract-by-contract basis; sometimes the principle is breached, as in IAS 25 which permits the valuation of securities on a portfolio basis. These comments are most revealing to the non-German reader: the IASC's disregard of these basic principles, which are central to German and EU law, results in its standards being inconsistent and opening the door to income manipulation.

The following chapter (IV) deals with a matter of great practical and topical interest: the rules to be followed by a company that seeks to apply IASs for the first time. The IASC has completely ignored this subject. The authors are forced to discover these rules through a painstaking examination of extant IASs, which reveals that different principles apply for different IASs. Thus, IAS 21 (foreign currency translation) states that, on the first occasion that an enterprise applies the standard, it should disclose the cumulative balance of deferred exchange differences relating to previous years only if the amount is reasonably determinable. However, IAS 9 (research and development costs) states that the standard applies to all financial statements covering periods beginning on or after January 1, 1995. The standard was issued in 1993, and no doubt the IASC considered that it was being helpful to companies in not requiring retrospective application. However, it completely overlooked the problems of enterprises that apply the standard for the first time after 1995. Hence, a company that seeks in 1998 for the first time to draw up its accounts using IASs is required to examine its accounts for all years since 1995 to discover development expenditure that should have been capitalized under IAS 9 to ensure that the intangible asset "development cost" is correctly reported in its 1998 balance sheet. This is a costly and laborious operation which yields little in the way of useful information. If the IASC does not want enterprises to undertake this task, it should inform them by issuing a standard, or perhaps an interpretation, on the subject of an enterprise's first IAS balance sheet.

The next chapter (V) is on the two German laws mentioned at the start of this review. It is based on the draft law and, since certain modifications were included in the laws as enacted, the chapter cannot be relied upon to give the correct position. The final chapter (VI) in Part A is on the audit of a set of accounts based on the IASs, which is another interesting and topical subject neglected by the IASC.

Part B Commentary (1,285 pages)

This part comprises the bulk of the work. It consists of 32 chapters, one chapter for each of the 31 IASs extant at December 31, 1996 (up to and including IAS 33), plus a chapter on E50 (the exposure draft on intangible assets). The average length of each chapter is 40 (large-format) pages, which allows a very detailed and rigorous analysis of each IAS. The chapter on IAS 11 (construction contracts) may be taken as a good example of the authors' approach. They explain that the basic issue addressed by IAS 11 is the allocation of the profit on long-term contracts to accounting periods, and they set forth the IASC's justification of the percentage-of-completion method, with reference to the recognition criteria of future economic benefit and reliable measurement that are contained in the IASC's Framework. They contrast the IASC's method with the completed-contract method prescribed by German accounting principles and conclude that, only in quite exceptional cases, are the two compatible. They discuss how to measure the percentage of completion, distinguishing between input-oriented and output-oriented methods. Finally, they point out that, whereas IAS 11 is clear that the profit on a long-term contract should be allocated to accounting periods on the basis of percentage of completion, it does not specify how revenues and costs should be allocated, particularly when the percentage of completion is not measured on the basis of cost, which means that alternative measurements of revenue and costs are permitted. Many of the above points are included in the English-language commentaries, but not all. In reading this chapter, the non-German reader gains new insights into the meaning of many aspects of IAS 11, particularly in relation to its ambiguities and shortcomings.

Part C: Appendices (140 pages)

This part comprises four appendices:

(a) A checklist of information required under the IASs;
(b) A comparison of the IASs with the German Commercial Code;
(c) A glossary (only from English to German); and
(d) Four pronouncements issued by the German audit profession.

In conclusion, what is the value of this book to the non-German reader? It is appropriate to distinguish two types of reader:

(a) The non-German who is a specialist in German accounting. This reader will find much of the general material in Parts A and C most useful and may turn to the individual chapters in Part B for an insight into the German approach to specific accounting problems. Certainly, this book should be included among his/her standard works of reference.
(b) The non-German who has no particular interest in German accounting but has a general interest in the International Accounting Standards. In fact, this reader will find much of interest in the chapters on the individual standards, since they present an analysis of these standards from a different and often novel viewpoint. However, it is regrettable that the lack of an adequate knowledge of German will limit the accessibility of this excellent book.

Reviewed by John Flower
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Management Accounting: European Perspectives, *edited by Alnoor Bhimani, Oxford University Press, Oxford,* 1996, 250 pp.

This important book sheds light on the range of management accounting practices in European countries. It fills an important gap in the literature by bringing together in one easily accessible location descriptions of the management accounting practices in 11 countries. I learned a lot from reading this book and recommend it for both academics and practitioners who want to understand the differing practices in European countries.

My only major criticism of the book is that it made me work too hard as I read it, trying to understand the factors that caused practices in the various countries to evolve in different ways. The very nature of the book forces the reader to wonder about the evolutionary process that led to such different national solutions. In my opinion, the book needs an initial summarizing chapter that identifies these factors and explains the general role they played in shaping practice in each country. Had such a chapter been written and then used to discipline the final drafts of the other chapters, a stronger book would have emerged. The failure to discipline the authors in this way makes it difficult for readers to develop their own model of the evolutionary process. For example, some of the authors identified the academy as playing a critical role in the development of management accounting practices in their country. However, others do not mention the role of the academy. Unfortunately, by not ensuring that each author explicitly specified whether or not the academy or, for that matter, any other potential factor played a role, it is impossible to begin to build a definitive evolutionary model, because there is no guarantee that a factor that is not mentioned was not operative. Furthermore, giving the authors a common template would have led to a more consistent book. For example, the authors of the chapters on Belgium and the U.K. talk about strategic investment decisions, but such decisions are not described in the chapters on other countries.

A Preliminary Evolutionary Model

As I read the book, I was able to identify seven factors that appeared to play an important role in the evolution of management accounting practice. All of these factors were mentioned by multiple authors and are intuitively reasonable to include in a preliminary evolutionary model. These seven factors are unlikely to be the only ones that played a role, but they do help explain why different practices emerged.

The Academy

In certain countries the academy was identified as playing a crucial role in the development of both theory and practice. The primary role in many countries was in choosing between full and variable costing. Typically, where the academy played a definitive role, variable costing emerged as the dominant approach. The other role that was identified for the academy was to disseminate best practices and new theories to practitioners. In particular, the spread of activity-based cost management theory by academics was mentioned.

The Profession

In most of the 11 countries, there is no professional body of management accountants, and therefore the profession apparently played only a small role in the evolution of theory or practice. The major developers of practice in counties without a professional accounting body appear to have been engineers. In countries where a well-established professional body exists, such as the U.K., the profession plays a role similar to the academy in diffusing innovation to practitioners and, more importantly, in creating a country-specific approach to management accounting.

Consultants

Several of the authors identified the role of consultants (especially the major accounting firms) in spreading innovation. The consultants appeared to play a similar, albeit more active, role in relation to the academy and the profession. The consultants were more active because they not only advocated adoption of new theories but also actively marketed them. Therefore, countries that have a history of relying upon consultants may be more likely to adopt innovations early on in their development.

Legislated Financial Accounting

Financial accounting legislation that identified the way inventory was to be valued frequently also determined the managerial approach to product costing. For example, if full costing was required for financial reporting, then full costing was the dominant managerial approach. In contrast, if the legislated approach was variable or direct costing, that became the dominant managerial approach adopted in the country.

In countries where the legislated approach changed, managerial practice also appeared to change. Thus, despite all of the theoretical discussion about which approach is superior, managers appear to adopt a very simple heuristic: use the same approach for managerial as for financial accounting. This observation does not mean that managers who use full costing do not adopt a contribution approach to decisions, but just that their starting point is full, not variable, cost.

Legislated Managerial Accounting

In some countries managerial accounting is or was legislated. Such legislation was typically developed to help manage a centralized economy—particularly in the years between the two world wars. These years were for many countries a period of scarcity, and the purpose of the legislation was to control prices. The legislation typically took a full-cost perspective, as the aim was to develop prices that were essentially cost-plus, and including all costs ensured that firms would be profitable. As the period of scarcity was replaced by the modern period of abundance, most of the countries repealed the legislation, and management accounting practice began to evolve independently.

The obvious exception is France, which still has highly detailed legislation covering how firms should managerially account for their transactions. The French model appears to be unique; no other country has developed such sophisticated legislation or kept it for so long a period. The French legislation is sufficiently general that new techniques such as activity-based costing can be adopted, but there is some suggestion that the rate of innovation has been slowed by the existence of the legislation.

Dominant Foreign Model

Several countries have developed distinct approaches to cost management that have influenced the practice in the countries around them. Four dominant foreign models were identified: German, Swedish (or Scandinavian), British and American (sometimes combined as Anglo-Saxon). Interestingly, where a dominant foreign model was identified as an important factor in influencing practice, the dominant model often changed over time. For example, the German model appeared to play an important role in many countries in the early development of practice, but today it is the American model that appears to dominate.

There was a clear geographical influence in the choice of the dominant foreign model. For example, Denmark and Finland were clearly influenced by the Swedish model in the early years. Whereas Dutch practice was influenced heavily by German practice, Belgian practice was in turn influenced by Dutch practice. Common or similar languages might explain this proximity effect.

Nature of the Local Economy

The evolution of management accounting was highly dependent upon the underlying nature of the countries' economy. In countries were firms were historically small or family-owned, virtually no dominant model of management accounting emerged. As large firms emerged or developed in these countries, management accounting was imported from elsewhere. If the largest firms were foreign subsidiaries, then the parent's country of origin typically determined the management accounting model adopted by the subsidiary. If the subsidiaries were highly visible in the local economy, they tended to be the role model that local companies followed as their need for sophisticated cost management developed.

Summary

These seven factors apparently played critical roles in the evolution of management accounting in the 11 countries. However, with the possible exception of the last factor, the nature of the local economy, they do little to explain why practice evolved in different ways in the various countries. To develop a model of the evolutionary process of management accounting requires, at a minimum, revisiting each country's author(s) and getting them to describe the evolution of their own country's practices in common terms. It is a shame that this last step was not taken. However, despite this shortcoming, *Management Accounting* is an important and valuable contribution to the literature.

Reviewed by Robin Cooper
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International Accounting, *edited by Peter Walton, Axel Haller and Bernard Raffournier, International Thomson Business Press, London,* 1998, 458 + xiv pp.

In the last three decades since Gerhard Mueller wrote the first international accounting text (Mueller, 1967), there has been a huge growth in the number of books and journals covering international accounting topics (see Adams and Roberts, 1994). The scope, quality and style of these books varies considerably. The editors of this book identify, in their preface, two approaches to the international accounting education literature at the current time: the "issues" approach which is concerned with the accounting problems of multinational corporations; and the "country" approach which focuses on the comparative development of accounting and reporting practices. The editors emphasize the "country" approach, and while both approaches should feature in the accounting curriculum in today's global business environment, the country approach is the most appropriate for undergraduate students whose prior financial accounting courses are very often taught solely in the context of their own country. It allows students to better understand the political and contingent nature of accounting and the influences on their own domestic practices, rather than viewing accounting as a neutral tool. While the country approach dominates, the book attempts to integrate chapters concerning both approaches.

Each chapter is written by one or more experts on that particular topic. Contributors include senior academics from a number of different countries, journal editors, senior personnel with multinational corporations, practicing accountants (including a Price Waterhouse partner), a technical adviser to the IASC Board, and a member of the IASC's Standing Interpretations Committee. This variety and expertise of the contributors gives this book a major advantage. It has depth which makes it interesting. It describes accounting in particular countries as experienced by nationals of those countries with international experience and so, unlike many of the international accounting texts written by Anglo-American authors, is free from possibly biased interpretation. This approach, as the preface, I think, correctly argues, "permits the student to gain an understanding of the country's accounting culture and its likely future evolution" (p. xi). The book is also very readable and, despite contributions from as many as 18 different authors, I found it, presumably as a result of some careful editing, seamless. Rather like financial statements prepared under the European Directives, each country chapter satisfies a minimum list of issues to be included.

The first chapter of the book is concerned with "country differences and harmonization." It summarizes the causes of diversity, the main ways in which practices differ, and briefly discusses the main organizations encouraging the convergence or harmonization of accounting and reporting practices. Most importantly, perhaps, for those new to research in international accounting, it classifies and briefly summarizes the research to date. It does not, however, cover the classification studies of accounting and reporting in any depth, and one might at least expect this to be explained in a book where the "country" approach dominates.

The second chapter is devoted entirely to the International Accounting Standards Committee, and covers its background, achievements, current issues, and a summary of each of its standards. As a measure of the emphasis on the cultural environment in which accounting develops, this chapter acknowledges the Anglo-American influence on the IASC and calls for a "re-balancing" if harmonization is to be achieved.

The next four chapters cover the major models of accounting, reporting, and its regulation. These are France, Germany and the U.S. "with the UK added as having influenced the US in the past and influencing the European Union in the present" (preface, p. xii). While these would be more appropriately referred to as models of Western accounting, it is very refreshing to see the importance, distinctiveness and relevance of French and German accounting recognized, and on reading these chapters one finds that the "re-balancing" required for harmonization to be achieved is clear.

Chapters 7 to 13 cover Japan, Switzerland, Italy, Belgium, the Netherlands, Spain and Australia. Chapter 14 covers the Scandinavian group of countries and Chapter 15 the Eastern European countries. The study of Eastern European countries is so often glossed over by international accounting texts and yet offers an important insight into the political nature of accounting and the processes of accounting change. The most obvious omissions to me from this "country" section are the lesser-developed countries, with their own distinctive issues, as well as China, with its long history of a very different form of accounting and its current process of reform.

The final five chapters deal with issues relevant to multinational corporations. Specifically, they cover: a comparative analysis of major accounting issues; the listing of multinational companies in international capital markets; foreign currency translation; segmental reporting; the auditing of multinationals; and accounting differences in relation to financial statement analysis. I concur with the significance of the topics covered here, and the only other one I would have especially liked to see specifically covered is accounting for groups and goodwill. Unfortunately, the reasons for the order in which these topics were taken up was not clear, and they perhaps could have been better integrated. It is because of the growth of international capital markets that harmonization has developed, and this link would have been much more clearly seen in this chapter if the chapter on the listing of multinationals in major capital markets had been placed nearer the beginning of the book, before harmonization. While the book specifically covers foreign currency translation and segmental reporting, which are presumably considered to be the most important accounting issues, the chapter entitled Comparative Analysis of Major Accounting Issues, containing tables comparing the accounting treatment of a number of issues in the different countries dealt with in the book, comes before them and does not include them. In addition, it would perhaps have been appropriate to link these tables with the final chapter: Accounting Differences and Financial Statement Analysis.

Overall, I judge this to be an excellent book for students who genuinely want to gain an understanding of the different factors influencing accounting and the diversity of accounting around the world. The approach, particularly the involvement of international authors with extensive and varied backgrounds, together with the effective writing style, make it a very interesting read. It will stretch students and, by its lack of tables and bullet points, be disliked by those who prefer to "learn" parrot-fashion.

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International Accounting: A Global Perspective, *by M. Zafar Iqbal, Trini U. Melcher and Amin A. Elmallah, South-Western College Publishing, Cincinnati,* 1997, 610 pp.

In the Preface (p. v), the authors state that "*International Accounting: A Global Perspective* is a current and comprehensive text, suitable for an upper-division undergraduate course or a graduate level course. With its global orientation, it is suitable for adoption worldwide." The appropriateness of this claim will be returned to at the end of the review, after discussing the structure and content of the book.

The text is comprised of 14 chapters, and, while the chapters are not formally grouped in any way, they seem to fall into a number of broad areas. The first four chapters essentially introduce the subject matter of international accounting and highlight some of the important issues. Chapters 1 and 2 outline the many facets of international accounting, guiding the student through the factors, processes and institutions that have led to business and economic activity "going international." The importance of people factors and cultural sensitivity in dealing with accounting in a global environment is also stressed in these chapters.

Chapter 3 deals with financial reporting and disclosures. This is a useful chapter. It does not simply focus on mandated disclosures, but also examines voluntary and non-financial disclosures, including social and environmental impact disclosures. The chapter illustrates clearly how the adoption of different measurement rules in different nations lead to differences in reported amounts in income statements and balance sheets. This is a hands-on approach that uses simple examples (including journal entries) to illustrate these differences. Taking four accounting issues (inventory measurement, write-up of fixed asset values, interest capitalization for asset construction, and capitalization of research and development costs) and presenting the requirements of 11 selected nations on these issues, the chapter allows students to see the potential for different combinations of accounting methods across nations and the resultant impact of these differences on the financial statements. The same 11 nations are used throughout the book to illustrate similarities and differences in accounting and reporting requirements and business environments. The nations are Australia, Brazil, Canada, France, Germany, Japan, Mexico, Netherlands, Nigeria, the U.K. and the U.S. Chapter 4 provides a brief overview of the accounting standard-setting process and some of the major accounting rules in each of the 11 nations.

Chapters 5 through 7 focus on a number of important financial accounting issues in an international context. These are Accounting for Changing Prices, Foreign Currency (transactions and translation), Business Combinations and Consolidations, Intangible Assets, Research and Development, Leases, and Pensions and Post-Retirement Benefits. In each case the authors illustrate the main accounting methods and then provide a comparative summary of the approaches used in the 11 nations. Sufficient detail is provided to allow the student to appreciate the financial statement differences that result from the different approaches. Good problems and case studies are provided at the end of the chapters. These require the student to work with different accounting requirements and to think in terms of the economic, social and political contexts of other nations.

Chapters 8, 9 and 10 focus on management accounting issues in an international context. The issues covered are Strategic Planning and Control; Budgeting, Product Costing and Foreign Exchange Risk Management; and Transfer Pricing and International Taxation. The inclusion of management accounting topics in an international accounting text is not common, and this is a strength of the current text. It allows students to appreciate that the issues facing organizations operating in the global environment are not just ones of external financial reporting and capital raising, but also include the day-to-day problem solving, risk appraisal and people management issues that face management as it constantly positions and re-positions its organization in a competitive international environment.

Chapter 11 discusses international financial statement analysis. It explains the main approaches to financial statement analysis, stressing that the general limitations of financial ratio analysis are intensified in the international context. The chapter includes four concise case studies which highlight the magnitude of the differences that arise when the financial statements of a number of the 11 nations are restated to accord with GAAP in the U.S., U.K., Germany, Spain and France. A positive feature is that restatements are not shown for only U.S. GAAP. Another positive aspect of this chapter is that it stresses the importance of understanding cultural, business and economic differences when analyzing financial statements. An instructor could usefully supplement the chapter with business and research papers that highlight some of these differences and show how they might affect the interpretation of financial statements.

The last two chapters in the text are entitled Developing Countries: The Emerging World Economic Order (Chapter 13) and Eastern European Countries (Chapter 14). These chapters are very important in rounding out the global focus of the book. They are written with a sensitivity to, and a close awareness of, the problems and challenges that face developing and Eastern European countries, and they emphasize the important roles that management and financial accountants can play in the emergence of relevant and useful accounting systems and regulatory frameworks in these countries. The authors have placed these chapters at the end of the text, and, while this is probably quite a logical placement, instructors using the text may be tempted to introduce them earlier in their course so that students are exposed to the full extent of the problems, challenges and opportunities that comprise accounting in a global environment and have time to carefully evaluate the issues as the course progresses.

In general, the book is well-structured and clearly written. One suggestion that I would offer for future editions is the inclusion of one or two paragraphs at the beginning of each chapter which outline clearly the purpose and structure of each chapter. While some chapters in the text do this, most do not.

I now return to the objective of the book which was quoted at the beginning of the review. Does the text fulfill its stated objective? First, in terms of its audience, the answer is yes. The book is well positioned for upper-division undergraduates and graduate-level courses. It assumes a reasonable proficiency in accounting (which is appropriate at this level), but the authors are careful to provide sufficient detail and examples of accounting and reporting practices that may be new to students. Second, is the book suitable for worldwide adoption? In general, I think the authors have done a good job of living up to this claim. The 11 illustrative nations used throughout the book have been carefully chosen to represent a wide range of accounting practices and reporting environments. There are some regions that may feel left out, such as China, the Middle East and Southeast Asia; however, some nations from these regions are given special attention in Chapters 13 and 14, and others are mentioned (albeit briefly) at relevant points throughout the book.

There are a number of other features of the book that make it student- (and instructor-) friendly. First, there is a useful glossary at the end of the book. Second, there is an extensive reference list at the end of each chapter. These and other references will allow instructors to supplement the text with additional readings. It will be important for the authors to keep their reference lists up to date when they revise the book for future editions. While there are some classic references on the list, some of the references, especially those from business journals and magazines, can easily start to look old and out of date.

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Contemporary Accounting Issues in China—An Analytical Approach, *by Liu Kin Cheung and Zhang Wei Guo, Prentice Hall, Simon & Schuster (Asia) Pte Ltd, Singapore,* 1996, 186 pages + xii pp.

Since the Economic Reforms in the early 1980s, there have been significant changes in managing the state-owned enterprises (SOEs). In addition, there has been an increase in foreign investments and in the joint venture-type of operations. To meet the accounting needs of these new enterprises, the public accounting profession, which went into extinction in the late 1950s, has been revived. The Chinese government has devoted considerable effort to issuing new regulations on the accounting profession and on financial reporting. Many new accounting issues have arisen in the past decades.

This book provides a comprehensive study of some of the financial reporting and managerial accounting issues. It is a very timely book, as many accounting scholars and practitioners have shown extreme interest in these issues. The book is written specifically for academic and professional readers outside of China. It can also be used as a supplementary textbook for an international accounting course or a course on accounting in China.

The book is divided into two parts. The first part (five chapters) focuses on financial reporting issues, and the second part (another five chapters) discusses managerial accounting issues. On the financial reporting issues, the book begins with a description of the historical development of financial accounting standards in China, factors underlying their development, and the organizations involved in the standard-setting process. Other than identifying the features and weaknesses of the old Financial System (i.e., under the state-planned economy), Chapter 2 discusses the 1992 Financial Standard for Business Enterprises and its problems. The financial disclosure issues are the focus of Chapter 3 which discusses securities market development, the securities regulations, and the required reports to be filed with the Securities Regulatory Commission. Furthermore, it identifies the problems in the implementation of the disclosure requirements. The qualifications, training and independence of CPAs are also discussed.

Chapter 4 presents empirical results from a mail questionnaire survey of 300 investors in Shanghai on their understanding and uses of annual report. The accounting treatments and revaluation procedures for major assets and liabilities items are covered in Chapter 5. This asset revaluation issue is significant in China due to the corporatization of state-owned enterprises (SOEs). The regulatory and organizational factors contributing to the importance of having assets revalued are also presented.

To understand China's current accounting standards and reporting requirements, one needs to know the historical background, the organizations involved, and the issues encountered in setting the accounting standards in the 1990s. Chapter 1 provides an excellent review of these areas and serves as a foundation for the following chapters. In Chapter 2, the authors treat the Financial Standard for Business Enterprises as a standard or regulation rather than as a conceptual framework. According to Xiang (1998, p. 113), the Standard(s) "essentially comprise a conceptual framework rather than operational standards, thus they are expected to serve as a guide for formulating the detailed accounting standards." In fact, in 1993, a three-year project was launched to issue 30 detailed accounting standards. Exposure drafts of these standards have been released for comment (Xiang, 1998, p. 113). One of the reasons for the delay in enacting these standards is due to the substantial differences between the detailed standards and the Financial Standard. The detailed standards would remove governmental control and allow more flexibility in choosing accounting policy and estimates. These detailed standards, if enacted, would move China's accounting standards closer to the International Accounting Standards. Consequently, without discussing or alerting readers to these proposed detailed accounting standards, Chapter 2's discussion on China's financial reporting issues seems incomplete. And Chapter 3 fails to compare the differences between the Securities Regulatory Commission with that of the U.S. Securities and Exchange Commission (SEC) in their roles and power in setting accounting standards.

Chapter 4 is a very weak chapter due to the significant limitations of the survey study. Overall, Chapter 5 is the best-written chapter and is very informative. The chapter provides information that is of great interest to Western readers.

For the managerial accounting issues, Chapter 6 begins with a discussion of performance evaluation issues of SOEs' contract responsibility system (CRS). The problems with CRS and the resulting dysfunctional short-term managerial behavior are presented in Chapters 7 and 8. Using a questionnaire survey, Chapter 7 summarizes the respondents' views on the types of short-term dysfunctional management behavior under the CRS and the factors causing the formation of these behaviors. Six short cases are presented in Chapter 8 to illustrate the various types of financial performance measures used by these SOEs and their problems. In describing the performance evaluation systems, limited discussion is provided of the weaknesses of the systems and the types of penalty usually levied. In addition, no discussion is directed at the roles performed by the management accountants and auditors.

Chapter 7 very thoroughly discusses the factors causing the short-term dysfunctional behavior and enables one to gain a better understanding of the distinct features of SOEs. As for Chapter 8, most of the issues discussed are of a management nature rather than of an accounting significance. No discussion is provided on the management control systems used by these SOEs. Finally, these three chapters discuss the management accounting issues primarily applicable to SOEs under CRS in the 1980s. In the 1990s, the government has reduced the use of CRS and encouraged the corporatization of SOEs. Consequently, these three chapters may lose much of their significance in the near future.

Chapter 9 is a short and concise chapter on performance indicators for joint ventures (JVs) based on a questionnaire survey result of 30 manufacturing JVs. This is a useful chapter for those involved, or planning to be involved, in establishing a joint venture relationship with a Chinese SOE.

The last chapter of the book reports a survey of accounting data manipulation conducted in Hong Kong and China. By comparison with Hong Kong practices, China's accounting practices look extremely good, with a very low level of accounting data manipulation in all aspects investigated. This is due to the limited use of accounting information for decision making and also to the fact that accounting disclosures are still in an early stage.

Overall, the weakness of this book is the lack of a framework within which to examine the financial, managerial and auditing issues. Consequently, the issues under discussion seem unrelated. Finally, the authors do not identify the areas requiring more research. As a result, this book fails to motivate further research interest in China's accounting arena. However, considering that this is the first book on accounting in China written in English in the 1990s, the authors have done an outstanding job in providing an overview of the accounting issues. In addition, the research findings presented via the field studies and questionnaire surveys were very interesting and thought-provoking.

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The International Journal of Accounting

Volume 33 • Number 5 • 1998

Published by
JAI Press Inc.
Greenwich, Connecticut London, England

For:
Center for International Education and Research in Accounting, University of Illinois at Urbana–Champaign

Author Index for Volume 33

Subject Index for Volume 33

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OF ACCOUNTING
ISSN: 0020-7063

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